Land Planning and Soil Evaluation Instruments in EEA Member and Cooperating Countries

Final Report for EEA from ETC/SIA

Prepared by:
David Ludlow (UWE), Marco Falconi (ISPRA)
Laurence Carmichael (UWE), Nick Croft (UWE)
Marco Di Leginio (ISPRA), Fiorenzo Fumanti (ISPRA)
Adam Sheppard (UWE), Nicholas Smith (UWE)

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Project Manager:
Geertrui Louwagie
Gorm Dige

European Environment Agency

Universidad de Malaga
ETC/SIA
PTA - Technological Park of Andalusia
c/ Marie Curie, 22 (Edificio Habitec)
Campanillas
29590 - Malaga
Spain

Telephone: +34 952 02 05 48
Fax: +34 952 02 05 59

Contact: etc-sia@uma.es

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Disclaimer

This report has been composed by the European Topic Centre on Spatial Information and Analysis (ETC/SIA) under the supervision of European Environment Agency (EEA) project managers. It is largely based on a survey run through the European Environmental Information and Observation Network (Eionet) National Reference Centre for Land Use and Spatial Planning (NRC LUSP). Conclusions have been agreed between ETC/SIA and EEA.

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1 – Introduction and Policy Background

Introduction

This final report on land planning and soil evaluation instruments in EEA member and cooperating countries has been developed as a joint report responding to the following tasks:

- Task 262_4_4: Changes in Landscape: Current Land Planning Instruments as support to NRC LUSP and;
- Task 262_4_7: Valuation of Soils based on Soil Services

The report is substantially based on the analysis of information provided by responses from NRC LUSP members (annex 1) to a questionnaire (annex 2) distributed by EEA in April 2013, The analysis of the responses to the questionnaire from the NRC LUSP were compiled into an Interim Report delivered to EEA in August 2013. The Interim Report formed the basis for consultation and engagement with members of the NRC LUSP at a workshop hosted at EEA on 26 September 2013. Feedback from the workshop regarding the issues identified above, together with supplementary desk research, have been incorporated into this Final Report.

This Final Report aims to capture Europe-wide experience of land-related resource efficiency tools, especially those involving land planning instruments, including the consideration of soil evaluation, i.e. the assessment of the quality and performance of soils for a specific purpose/use. In particular the report addresses issues highlighted as significant challenges at the first NRC LUSP workshop in 2012 including:

- Concerns regarding the evident differences that exist between countries as regards land-related resource efficiency measures. Planning the use of land is a key tool in this respect, and the extent to which lack of or limited attention to the value of environmental resources in land planning undermines the maintenance of ecosystem services, including soil services, is a key issue.

Soil quality assessment tools provide a significant opportunity to enhance the effectiveness and efficiency of land management, and thus minimise land take. However a crucial question in resource efficiency assessment is whether soil information and knowledge is taken into account by land planning instruments, and if so, how? In other words, on which basis is land/soil being evaluated/valued when its use is changed and/or when it is being exchanged in a land planning project.

Policy Background - Acceleration of Land Take and Soil Sealing

The policy background to this initiative reflects the fact that land and soil are vital European resources and the basis for much of the continent's development. A key concern in this context is the acceleration of land take and soil sealing associated with the processes of urbanisation and infrastructure development. In recent decades, land take for urbanisation

and infrastructure has grown at more than twice the rate of the population increase, a trend that is clearly unsustainable in the longer term (EC's Soil Sealing Guidelines, 2012[1]).

At the EU level, resource efficiency has become a top environmental priority, identified as one of the seven Flagship Initiatives in the Europe 2020 Strategy supporting the shift towards a resource-efficient, low-carbon economy for sustainable growth. Accordingly, the Roadmap suggests that "by 2020, EU policies take into account their direct and indirect impact on land use, and the rate of land take is on track with the aim of achieving no net land take by 2050; and that soil erosion is reduced and soil organic matter increased, with remedial work on contaminated sites well underway".

These issues are already addressed by the Soil Thematic Strategy (COM(2006) 231)[2], which as a framework for the proposed Soil Framework Directive[3], highlights the need for appropriate measures by Member States to limit soil degradation. These measures could include the integration of soil assessments in land planning, including those addressing soil quality, thereby supporting the mobilisation of effective land planning instruments to limit land take. The integration of land use aspects into coordinated decision making involving all relevant levels of government, supported by the adoption of targets on soil and land as a resource and land planning objective, is also emphasised in the proposed 7th EAP[4] in line with all the above concerns, the EC is also planning a Communication on Land as a Resource.

Environmental Policy Challenges - Soil in Context

The natural environment supplies the natural resources and ecosystem services that sustain health and well-being, and ensure economic prosperity. Natural resources include both renewables, such as food and biomass, and non-renewables, such as fossil fuels, metals and other raw materials. Ecosystem services in addition to fertile soils, deliver clean air and water, a stable climate, as well as the capacity to absorb waste.

The supply of ecosystem services and natural resources, whether renewable or non-renewable, is limited. Natural resources must be managed to ensure that they are utilised carefully and to preserve, or in some cases prolong, their collective potential to deliver ecosystem services.

The European Environment - State and Outlook 2010 (EEA, 2010)[5] provides a comprehensive report on the European environment's state, trends and prospects. It shows that environmental policy has delivered substantial progress in reducing environmental pressures and improving the state of the environment, but that nonetheless urgent action is

[1] http://ec.europa.eu/environment/soil/sealing.htm

[2] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52006DC0231:EN:NOT

[3] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52006PC0232:EN:NOT

[4] http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/envir/139603.pdf

[5] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52013DC0249:EN:NOT

still needed in some cases to address imminent crises, and that solving many of today's environmental concerns will require rigorous, long-term efforts.

While many of the environmental problems are longstanding, emerging global drivers of change are posing additional environmental policy challenges. Decades of intensive use of natural capital stocks and ecosystem degradation to fuel economic development have not only created environmental pressures in Europe but have also contributed to global environmental changes, creating potential risks for Europe.

Unprecedented global demand has chased scarcer energy and raw materials, and more than ever, a range of long-term trends are set to shape the future European and global contexts. Key developments include accelerating rates of urbanisation, changing demographic patterns, ever faster technological changes, deepening market integration, evolving economic power shifts and climate change.

In addition, the current financial and economic situation in Europe has driven urgent, short-term policy actions, making it more difficult to maintain a longer view on policy responses, which is often necessary when addressing environmental concerns. A key policy challenge is thus to reflect on and address potential synergies and trade-offs between the multiple economic, social and environmental goals that play out on different time scales, for example, the interplay between the urgent fiscal consolidation process in many European countries and the need to maintain ecosystem functions in the longer term.

Towards a Green Economy – Framing Policy

Against this backdrop of unprecedented change, interconnected risks and increased vulnerabilities of current environmental challenges, the EEA Environmental Indicator Report 2012 (EEA, 2012)[6] has identified 4 key future environmental policy priorities:

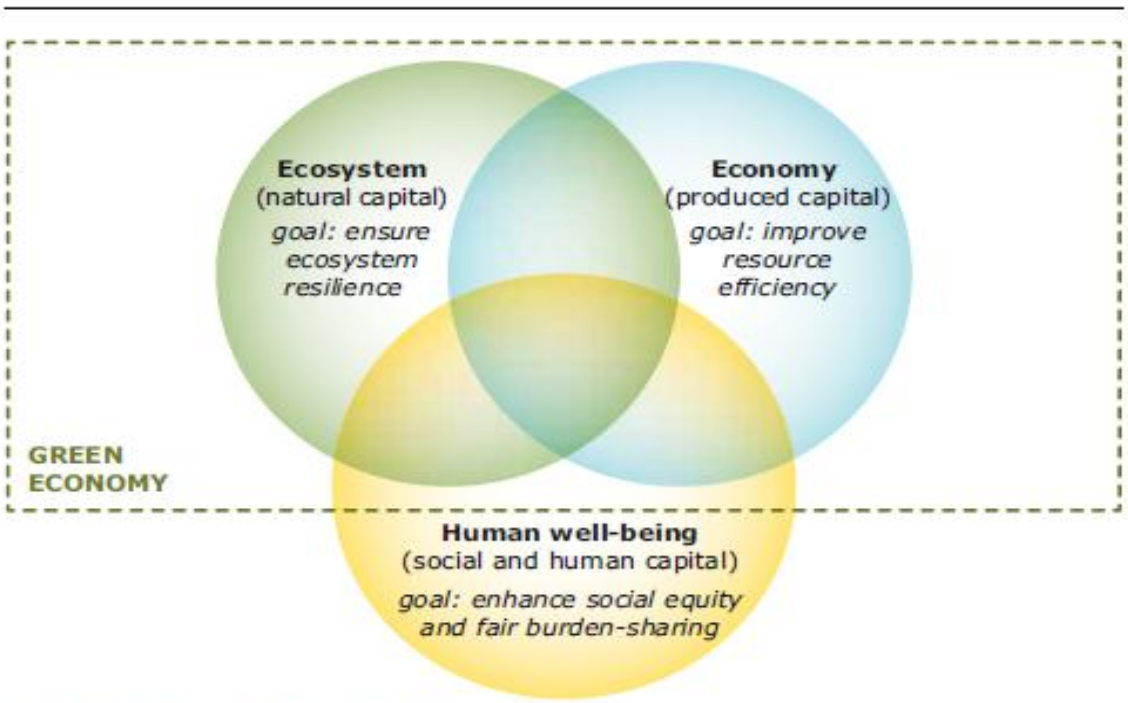
- better implementation and further strengthening of current environmental priorities;
- coherent integration of environmental considerations across sectoral policy domains;
- dedicated management of natural capital and ecosystem services;
- transformation to a green economy (sustainable development).

The first three priorities are fundamentally concerned with the management of environmental priorities, and in this regard provide a context for the focus here to address the effectiveness of spatial planning and management systems in supporting land/soil ecosystem management, as a critical component in the delivery of a green economy.

A green economy is one in which environmental, economic and social policies and innovations enable society to use resources efficiently, thereby enhancing human well-being in an inclusive manner, while maintaining the natural systems that sustain us. In this context ecosystems, the economy, human well-being and their related types of capital are intrinsically linked (Figure 1).

[6] http://www.eea.europa.eu/publications/environmental-indicator-report-2012

Figure 1: Green Economy: Interrelations of Socio-economic and Environmental Spheres (Source: EEA, 2012)



Source: European Environment Agency.

Furthermore, these interlinked socio-economic and environmental considerations, provide the frame of interconnected policy objectives, in which ecosystem management including of the land/soil component can be located. Thus, a dual policy challenge is identified:

• ensuring **ecosystem resilience** and maintaining a resilient structure and functioning of ecosystems, such that they continue to deliver the ecosystem services that support our economies and well-being;

• improving **resource efficiency** use in production and consumption activities, while reducing the related environmental impacts.

Policy Challenge 1– Ensuring Ecosystem Resilience

Ecosystem resilience defined as the capacity of an ecosystem to tolerate disturbance without collapsing into a (qualitatively) different state — the ability to withstand shocks or adapt when necessary. Human activities that adversely affect ecosystem resilience include those that lead to climate change, biodiversity loss, exploitation of natural resources, and pollution — or, more broadly speaking, the over-use of natural resources to fuel the economy.

Depletion of natural capital in Europe and elsewhere may jeopardise good ecological status and resilience. This can occur as a result of reduced natural resources or disruption of the relationship between the ecological components required to maintain stable environmental conditions. The impact of climate change and the adaption of ecosystems to these changes

create additional uncertainty and risk. The concept of ecosystem resilience is directly related to the notion of 'coping capacity' or 'adaptive capacity'.

Policy Challenge 2 – Improving Resource Efficiency

'Resource efficiency' is a broad concept. In the European context it is understood to require 'that all resources are sustainably managed, from raw materials to energy, water, air, land and soil'. A resource efficient economy 'is competitive, inclusive and provides a high standard of living with much lower environmental impacts' (EC, 2011b)[7].

It is important to note that increasing resource efficiency is a necessary but not sufficient requirement for a green economy. Natural resource use may continue to increase in absolute terms despite increased resource efficiency. Accordingly, the notion of absolute decoupling is central to the discussion of resource efficiency, as it is also a precondition for achieving environmental impact decoupling.

Policy Process Design and Integration Principles

Achieving success in transformation to the green economy requires not only regulatory policies (such as spatial planning), but a mixture of management measures including economic instruments (such as taxes, subsidies and trading schemes), and non-economic measures (such as voluntary approaches and information provision).

A fundamental principle of policy process design concerns the integration of economic and environmental aspects, which underpins the concept of the green economy (Figure1), and which lies at the heart of any transformative process towards a green economy.

As regards policy mix the internalisation of environmental costs, including more widespread application of the polluter pays principle, and reduced environmentally harmful subsidies, are critical components. Furthermore, supporting these policy instruments and measures, additional public and private action (mixture of management measures) is needed to speed up the transformation. A green economy is likely to depend crucially on innovation (in particular eco-innovation), investments (for example, in green technologies) and information sharing (especially to engage citizens).

Equally, moving toward a green economy requires recognition of the region's uniqueness and environmental assets (or lack of such assets). The Europe 2020 strategy for smart, sustainable and inclusive growth (EC, 2010)[8], and the related 'Roadmap to a resource efficient Europe' (EC, 2011b)[9] and the 'Roadmap for moving to a competitive low carbon economy in 2050' (EC, 2011c)[10], already reflect this broader green economy perspective.

These various policy process design considerations in relation to policy integration essential for the delivery of the green economy (sustainable development) are indicated in Figure 2. It

[7] http://ec.europa.eu/environment/newprg/pdf/Position%20Papers%20received/Cefic.pdf

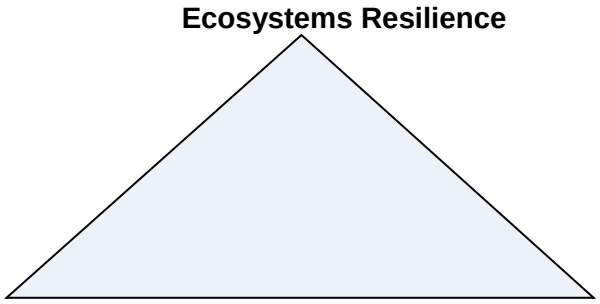
[8] http://ec.europa.eu/europe2020/index_en.htm

[9] http://ec.europa.eu/environment/resource_efficiency/pdf/com2011_571.pdf

[10] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0112:FIN:en:PDF

illustrates the means by which the environmental objectives of ecosystems management are integrated with the predominantly socio-economic objectives of territorial cohesion policy. This integration is attained by the application of place-based spatial planning in which territorial integration of policy objectives (territorial assets) forms a fundamental principle of the policy process design.

Figure 2: Spatial Planning integrating Territorial, Socio-economic and Environmental



Source: European Environment Agency

Spatial planning (place-based policy formation) according to a policy process model of integrated management, aims to provide integrated assessments of the alternative territorial demands arising in relation to the various policy objectives including those of ecosystems resilience and territorial cohesion. Spatial planning proceeds on the basis of this assessment to manage the potential synergies and trade-offs between the multiple economic, social and environmental goals that play out on different time scales, and in respect of different territorial contexts.

Structure of the Report

Following this introduction section 2 presents key findings in respect of both planning- and soil-related aspects of the questionnaire, section 3 offers a summary report on question responses commencing with 6 planning-related questions and followed by 6 soil-related questions. This presentation is supported by section 4 - summary tables and key messages, which identifies the key messages associated with each question, in tabular form, structured according to responding country. The report country profile, in section 5 of the report, distils the essence of both planning- and soil-related responses structured by responding country. This section is complemented by section 6 – good practice examples for land use planning and section 7 – examples of good practice to support the objective of no net land take. Finally, section 8 – findings and comments received as feedback during NRC-LUSP meeting held in Copenhagen, on 26th of September 2013 closes the report.

2 - Question Responses Key Findings – Planning and Soil-related Aspects

Key Findings – Planning

Q1 Which land planning instruments are available in your country? What are the related policies and procedures? In this context please identify the relationship between national, regional and local-level policies and decision making in respect of land management and the control of urban sprawl.

A variety of instruments exist with respect to the delivery and management of planning across Europe. These processes are typically bound by legislation and led by one or more government departments. The planning systems are generally characterised by a strong national lead, with countries possessing some kind of national spatial plan and/or strategy, or a series of guidelines with respect to the type of policy targets that those working in the planning system should be adhering to. These principles are wide-ranging but the prevention of urban sprawl seemed to be a key objective. Protection of the environment was equally important, with soils being included as part of the overall ecosystem that needs to be managed. European legislation, as mentioned below, ensures an element of consistency in this.

These national goals and principles are then applied at a series of spatial scales below. These vary but include the scale of the region, county, city-region, municipality, and local commune. The majority of these lower tiers are expected to produce some kind of plan or strategy themselves, with this document often having to be approved by one of the tiers above. The precise nature of this relationship between the tiers of governance varies between countries as some, for example the UK, have a strong national central planning, greatly influencing the local level, whereas Spain for example has a strong regional devolution of spatial planning responsibility in which the centre is relatively less dominant.

The presence of some kind of local plan appears to be the norm across Europe. However, the scale and specificity of these documents varies. Some plans are very detailed, with areas being zoned and supported by some kind of ordinance or code. Other plans are more fluid, preferring to provide a general steer for how future growth should be facilitated and managed.

Some of the responding countries noted how their planning system had recently been reformed; three respondents (Croatia, Greece and the Netherlands) noted how their planning system was about to be reformed.

Q2a Please identify the key drivers of change (socio-economic and environmental) and prime challenges arising to which land planning must respond.

A variety of drivers and challenges for each of the planning systems were outlined by the respondents. Urban sprawl was identified as a specific urban challenge by some countries but it was implicit in other responses too. The environmental consequences arising from this sprawl were generally acknowledged, but there were few specific references to the impact upon soils and ecosystems. Rural depopulation was identified an important driver of sprawl,

with negative consequences arising at those areas losing (e.g. a decline in rural services) and gaining population (e.g. traffic congestion). These rural to urban shifts were leading to growing disparities in some countries (particularly in eastern European states), accentuating the disparities between the 'centre' and the 'periphery'. Sprawl was generally occurring around larger centres of population but urban growth in coastal areas was also seen as a significant issue by some countries. Some sprawl had been encouraged (or at least accommodated) through plans, but a few responses referred to the proliferation of illegal (and, in some cases, unsafe) development. Broader challenges included the uncertainty over future levels of population and economic growth (or decline), technological change, and the impacts arising from climate change.

Q2b In particular, is the planning system responding to the (current) economic crisis by paying no or less attention to environmental criteria?

None of the responding countries expressed a view that the economic crisis had lessened the level of attention given to environmental criteria. However, it was noted that the crisis had varying levels of impact across Europe. Environmental legislation, including the procedures for Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA), seem to be important in ensuring that the environment continues to be protected, although some questions were raised about the effectiveness at which these procedures are implemented locally.

Even though environmental protection remains important, the economic crisis has led to further pressures to develop and initiate economic growth (e.g. Greece), or to overcome a slowdown in growth, e.g. in the construction activity (Spain).

Q3 How are environmental criteria incorporated into land use planning, and which criteria are most commonly included in the decision making? In particular, is soil quality taken into account?

Environmental criteria are primarily incorporated into land use planning through the use of Environmental Impact Assessments (EIA) and Strategic Environmental Assessments (SEA), which are employed in the plan and decision making processes. The use of these tools is a legal requirement within the EU and as such their prominence as a tool is logical. In addition to the use of EIA and SEA, further policy and legal tools are highlighted by nations as methods for enabling and realising environmental considerations within land use planning and decision making. Soil quality is highlighted in many instances as a consideration, though the value/weight of this as a factor is not clear.

Q4 In your national context is it possible to identify variations in land planning between different planning authorities (e.g., municipalities, regions in their respective contexts: urban, peri-urban or rural) in respect, for example, of application and enforcement of policy measures? If relevant, what explanations can you offer for such variations in land planning?

A variety of different structures and approaches to governance and planning are identified. Differences in conceptual planning approaches are not identified, but there is clear variation in the roles, responsibilities and activities occurring at each level of governance, and the

degree of flexibility that occurs at each level. A broad trend is for strategic guidance/direction/control, through policy, plans and legal controls, to exist at the national (and regional in some instances) level, with the primary mechanisms and tools for detailed land use planning and decision making existing at the local level. The degree of flexibility that can exist at the local level by virtue of the nature of the strategic structures varies significantly, from extensive flexibility to none at all in countries where a very rigid framework exists with national oversight of local activities.

Q5 Is land use and land planning based on spatially explicit data and geographical information analysis (GIA) methods? Please identify in which areas of policy making/implementation such data are used.

Most countries use spatially explicit data and geographical information analysis methods in preparing land use plans. The majority of these use the data more locally, albeit that there is considerable inconsistency in use at local levels within countries, possibly due to there being no national requirement to use a particular system with the choice being left to the municipality/region to decide. The policy areas for which GIA methods are used vary: some use it for the identification, protection and preservation of natural, topographic, historical and cultural features and assessing demographic trends; others use aerial photography to create an inventory; while again others use the approach for public interface activities such as document display and consultation exercises.

Q6 Could you identify and elaborate on what you consider as good practice examples of land planning systems, in particular with respect to controlling urban sprawl and land take, in your country? Please document your example with institutional context, etc.

Examples of good practice are detailed in section 5 of this report.

Key Findings – Soil

Q7 What are the policies and procedures for addressing soil evaluation as part of land planning? Is the soil evaluation mandatory or voluntary? Please identify the level of governance (national, regional, local), as well as key institutions and stakeholders involved.

Very different situations were reported. In general policies and procedures vary depending on whether the soil evaluation in support of land planning is focused on protection of agricultural areas or soil contamination aspects. In the first case, the soil fertility and land production potential are evaluated to determine the amount of the compensation measure (e.g., a fee). In the second one, the objective is to evaluate if there are unacceptable risks for human health or the environment. In some countries the reported procedures are linked to environmental impact assessment (EIA).

Half of the respondents assert that soil evaluation is mandatory, even though sometimes only for particular purposes, such as land use changes.

The governance involves many institutions, at different levels. In general the competent ministries set up the policy objective in their respective area, sometimes the general guidelines to achieve it. Soil management specifications are generally up to local authorities

(regions, municipalities), seldom to public agencies; even though the latter in some cases supervise the monitoring process on soil and/or land use.

Q8a Soil characteristics for soil evaluation: which soil characteristics are used in the soil evaluation (e.g., physical/chemical/biological data)? Please specify according to planned use/purpose and/or economic sector (e.g., construction, agriculture, nature) where relevant.

Countries mostly use physical, sometimes chemical and almost never biological characteristics of soil. For example, biological data are used in Finland, but only if an EIA procedure is required.

Most countries report a list of soil characteristics that differ according to the purpose of the soil evaluation, e.g. agriculture (e.g. pH, humus content, fine clay content, soil unit, soil type, etc.), or construction (mainly contamination concentration).

In many cases, physical, chemical and biological characteristics are considered when developing urban plans, or used in cadastral evaluation for tax purposes. In addition, soil is divided into classes that reflect, in part, economic value; that is, the land crop production potential.

In both cases existing soil data have been reported as outdated (> 40 years).

Q8b Soil characteristics for soil evaluation: in this context, do you categorise/classify soils according to their economic value? If so, please document such classification, indicating the categories of soils with highest/intermediate/lowest value and the rules to define the value?

In general economic value is not used to classify soil formally, except for some countries; even though good soil characteristics are linked with economic value. Aspects other than soil characteristics may influence the price, such as location and access. When a soil classification is reported, it is related to the agricultural production function of soils, where the soil classes reflect different suitability of soils for agricultural production, thus referring indirectly to their economic value.

Q9 If soil quality is assessed in the planning process, which soil functions are taken into account, and to which degree?

The food and biomass production, environmental interaction, and archive for natural and cultural heritage soil functions have been reported as important for at least half of the countries. In some countries food production appears as the most important one, and the compensation fee to change from agricultural to an alternative land use is sometimes guided by potential production. Some countries (e.g., Finland, Netherlands) specify that soil functions may gain/loose importance depending on the planned land use. For example in the Netherlands the carbon pool function is important for nature areas, neutral for agricultural areas and usually not taken into account for urbanized areas. Functions reported in addition to the suggested ones are groundwater protection and adaptation to climate change.

Q10 Does soil degradation (e.g., contamination, soil sealing, erosion) require compensation (e.g., money, land of similar quality/value), and if so, by whom (e.g. developers, industry)? In case of monetary compensation, please specify whether soil information (e.g., estimated loss of soil functions) is taken into account in estimating compensation. Please illustrate your information with specific examples.

Contamination is recognised as the main soil degradation process and the general policy is the polluter pays principle, which means that the polluter shall bear the costs associated with the elimination of the risk to human health and the environment. Compensation measures in monetary terms are mostly required when developers want to claim land for building purposes, while the amount of the compensation is either related to the square meters of the building(s) or to the production potential of agricultural soils. Soil sealing per se is rarely identified as requiring compensation.

Q11a Contaminated land as a resource? How is contaminated land considered as a potential resource in land planning? In particular, which rules are used (e.g., remediation so that the quality is satisfactory for the planned use or so-called 'fit-for-purpose', or restoration of the original soil quality/functions)?

The presence of contamination is seen as a problem and not as an opportunity as it limits the land use possibilities. However, a few countries see contaminated land as a resource or potential resource, and in a couple of cases an appropriate legislation/regulation to facilitate the reuse of brownfields has been developed.

Almost all countries where contamination is recognised as a problem mention a risk-based land management approach, with the underlying rationale that soil contamination influences, directly or indirectly, both the development of small areas and the revision of land planning at various levels of governance.

Q11b In this context, are there specific rules concerning change of use or trading/sale of contaminated lands? If yes, please provide examples, indicating the level of governance and the legal/procedural basis, if any.

The presence of contamination influences land planning in almost all countries, and there are specific rules to follow when trading/selling a contaminated site. In general, soil evaluation is necessary when trading or selling contaminated sites. The information on soil contamination is in some cases available to the public, in other cases just to the potential buyer. In half of the countries, inventories of contaminated sites are in place at national or regional level with the information available to the public. In a few countries the information on soil contamination should be recorded in the cadastre, and is thus available to the public. The level of governance for this issue is often at local level and may involve public authorities and/or consultants that act as third party.

Q12 Can you provide examples of avoiding additional land take/aiming at 'no net land take'. Please provide context, including the level of governance.

Half of the respondents report that this concept is embedded in legislation and/or regulation at different levels of governance, which means that soil consumption is strongly taken into account and recognised as a key problem in these countries.

Some countries (Germany, Italy, Romania) report examples of “no net land take”, in some cases providing websites where additional information can be found.

3 - Question Responses Summary Report

Question 1 - Which land planning instruments are available in your country? What are the related policies and procedures? In this context please identify the relationship between national, regional and local-level policies and decision making in respect of land management and the control of urban sprawl.

Overview

Question 1 received nineteen responses. The response from Belgium (Flanders) was incomplete. A variety of instruments, policies and procedures were outlined by the respondents, and these are presented in the individual country responses attached.

Although the responses varied in their level of detail, they were all helpful in outlining the institutional frameworks for planning in each country. Some responses, such as that provided by Poland, were helpful in identifying the general responsibilities towards planning, transport, environmental protection and regional development across particular government departments. The Bulgarian response began by highlighting the role for pan-European policy, particularly in terms of the measures for promoting social, economic and territorial cohesion. However, the majority began their response by referring to particular pieces of legislation.

Specific laws were cited in the responses provided by Finland, Estonia, Greece and Italy amongst others. The level of analysis surrounding these citations was rather variable but links were made back to this legislation in subsequent parts of the response. Much of this legislation was typically related to the operation of the respective planning system or to the approach in managing development. Some responses, particularly the one provided by Poland, noted that environmental protection and objectives concerning the protection of agricultural land, forestry and soils were covered by separate legislation. Laws concerning the implementation of Strategic Environmental Assessment and Environmental Impact Assessment were also highlighted as being important.

Fifteen countries referred to some kind of national document, although the role and form of these varied. Examples include the 'Spatial Plan for the Republic of Macedonia', the 'National Spatial Development Concept' (Poland), the 'Territorial Development Strategy' (Romania) and the 'National Spatial Planning Framework' (Greece). Some of these documents were restricted to setting out key principles or policies for development (Italy), while others seemed to provide guidance for particular locations or, in the case of Poland, for certain types of 'functional areas' (e.g. urban, rural, mountainous and marine environments). The Greek response referred to a number of sector plans that had been prepared to facilitate the delivery of infrastructure; these documents stood alongside the country's 'National Spatial Planning Framework'. Latvia referred to a national marine plan.

The majority of this policy and guidance appeared to originate centrally, although in the case of Germany, the sixteen regional Lander formulate 'common principles' that are then applied to influence spatial development over Germany as a whole. All of the countries referred to the vertical links that enabled this policy and guidance to filter down.

However, some responses also noted how their respective government was responsible for approving plans created at a lower spatial scale. For instance, in Finland, the national government is required to sign off regional plans and any local plans produced jointly by two local authorities. Similarly in Spain, regional authorities are required to approve local plans (Plan General de Ordenación Urbana).

A few of the responses referred to the goals, policies and requirements of these plans, laws and guidance notes with respect to protecting soil and preventing urban sprawl. For example, the German response, in discussing the Federal Spatial Planning Act, explained that the last sentence of item 2 sought to limit the take of greenfield land. Similarly, the detailed response from Estonia referred to specific objectives concerning the protection of agricultural land and the need to understand the particular character and quality of land.

Some variation was observed in relation to the spatial tiers below the national scale. For example, in Kosovo under UNSCR 1244/99[11] and the Former Yugoslav Republic of Macedonia (FYROM)[12], there is only a 'local tier'; although in other countries there are plan and policy making authorities at a regional (NUTS2) and/or county/municipal (NUTS3) scale (although direct comparisons by size are difficult). Ten of the respondents referred to particular regional authorities, including Finland, Greece, Latvia, Poland, Romania and Slovakia. Croatia, Estonia and Romania referred to some kind of county tier.

All of the responding countries referred to a local plan although it is clear that the scope, and spatial scale, of these documents varies. Some of the plans, including those in Croatia and Estonia, were presented as some kind of zoning plan that provides prescriptive advice as to what can be built in each location. Given the apparent variety it would have been useful to receive examples of these local plans to understand how they might visually differ. Equally it would have been useful to know about the role of these plans in allowing or resisting development which would have helped to provide a view on the extent to which policy is successfully implemented.

These links were clearly set out in the Dutch response that referred to some 16 different instruments. For example, it was clear that an environmental permit (omgevingsvergunning) would only be issued if the development was in accordance with the detail of the local zoning plan (bestemmingsplan), which in itself would need to comply with the provisions set out in a provincially-produced ordinance (verordening). Each of the three government tiers (national, provincial and municipal) are also required to produce a structural vision for their area (structuurvisie) which provides a further strand of influence.

Throughout the responses there was acknowledgement that plans had to be produced using a strong base of evidence. The Finnish and Romanian responses referred to the role of national research institutes. For example, in Romania, the National Institute of Research and Development Urban Project, and the Documentation Centre for Constructions, Architecture,

[11] Referred to in short as 'Kosovo'

[12] Referred to in short as 'FYROM'

Urban Planning and Spatial Planning were established to undertake research and promote technological development in planning practice.

Lastly, three of the respondents (Croatia, Greece and the Netherlands) referred to how their respective planning systems were soon to be reformed. The Greek response referred to a general strategy of simplifying current procedures.

Summaries of Country Responses

Currently **Albania** operates in accordance with the following laws:

- Law 10119 dt. 23/04/2009 (for planning)
- Law 10 258 dt.25/03/2012 (as amended) (for territorial planning)
- Law 10360 dt.16/12/2012
- Some amendments to Law No. 10 119, dt 23/04/2009 'on territorial planning' (as amended)
- Normative Act No. 4 dt.25/08/2010

These instruments provide the context under which central and local governments operate.

In **Bulgaria**, Government policy for regional development creates conditions for balanced and sustainable integrated development of regions and municipalities. It aims to reduce inter-regional and intra-regional disparities in development and support the process of economic, social and territorial cohesion within the EU.

The 'National Regional Development Strategy' (NRDS) of Bulgaria for the period 2012-2022 is progressed in accordance with the regulations of the Law on Regional Development[13]. The 'National Strategic Reference Framework' (NSRF) is the basic document that defines the strategic framework of government policy to achieve balanced and sustainable development via land planning and to overcome the intra-and inter-regional differences / inequalities[14].

All of this activity happens in the context of pan-European cohesion and objectives to achieve smart, sustainable and inclusive growth. The objectives and priorities of the NSRF contribute to the 'Europe 2020' strategy, and take into account the provisions of the 'Territorial Agenda 2020' and the National Development Programme 'Bulgaria 2020'[15].

[13] http://www.kiip.bg/documents/nu/NACIONALNA.pdf [in Bulgarian]

[14] http://www.sofia.bg/pressecentre/images/Priloj.%20OPR%20-%20Kratko%20opisanie.pdf [in Bulgarian]

[15] Other links provided via the response included: The Environment Executive Agency (ExEA) (http://eea.government.bg/eng); The National Statistics Institute (NSI) (http://www.nsi.bg); The Ministry of the Environment and Waters (MoEW) (http://www.moew.government.bg); The Ministry of Agriculture and Food (MoAF): http://www.mzh.government.bg and The Ministry of Regional Development and Public Works (MRDPW) (http://www.mrrb.government.bg).

In **Croatia**, instruments of spatial land planning are land use plans, zoning information systems and reports on the situation of the area being planned. Spatial land plans define the meaningful organisation and use of space, and include measures and guidelines for planning and protection of the state, counties, cities and municipalities.

At the national level today there is effective strategy, Program Physical Planning. There are physical plans of counties, spatial land plans for areas of special character or concern (e.g. national parks and nature parks), spatial plans for cities and municipalities (the City Master Plan), master plans and detailed plans.

Currently in preparation is a new law on Spatial Land Planning, which propose some other types of plans relating to the specificity of area's character together with existing plans.

Vertical integration and coherence of the overall structure of regional plans provides the requirements of plans at every level, in terms of higher-level plans, specifying the planning context for lower level plans. Horizontal comprehensiveness and integration provide coverage of all relevant sectors and aspects and their implementation in the spatial unit.

With respect to **Estonia**, the Planning Act (PA) regulates relations between the state, local governments and other persons in the preparation of plans. The purpose of the act is to ensure conditions which take into account the needs and interests of the widest possible range of members of society for balanced and sustainable spatial development, spatial planning, land use and building. There are no additional planning regulations and by-laws to PA.

The planning system proceeding from the PA is four-level - national planning, county planning, (municipal) comprehensive planning and detailed planning. On the one hand the planning system is hierarchic, i.e. the more detailed plan has to observe the valid more general plan. On the other - interactive, i.e. in case a more detailed plan requires modification of a more general plan, the necessary change comes into effect with enforcement of the more detailed plan. The PA expressly underlines the agreement nature of plans and the consequent co-operation requirement in all the phases of the planning process.

The National Plan sets guidelines and general principles for spatial development which shall be followed by county plans. In Estonia there is no regional self-government; the county administration is a regional branch of state government.

The objectives of county planning are:

- to ensure the conservation of valuable arable land, landscapes and natural biotic communities;
- to determine general conditions for the use of land and water areas and fundamental zoning principles;
- to determine conditions for the use of natural resources;

The Act prescribed county plans to be produced within three years after enactment, i.e. by mid-summer of 1998. In the summer of 1999 the Government consigned another round of county planning, consisting of thematic plans focusing on green networks and valuable landscapes. A new task for county planning was given by the Government - elaboration of a theme plan entitled Environmental Preconditions Guiding Settlement and Land Use. Those theme plans were mostly prepared and adopted until the year 2005. Third round of county planning will be initiated by the Government in summer 2013.

The objectives of a comprehensive plan are:

- to ensure the conservation of valuable arable land, landscapes and natural communities and determine the conditions for their use;
- establish general conditions for the use of land and water areas and general construction criteria thereof;
- functional zoning of territories in order to determine the primary use of the territories or parts thereof;
- construction of new buildings, additions to existing buildings, division of land into plots and alterations to boundaries of existing plots in urban areas are only permitted on the basis of detailed plans adopted by local governments.

Finland is a sparsely populated country, where landscapes are largely dominated by natural forests and lakes. Settlements are generally concentrated in coastal regions and alongside important lakes and waterways.

Built-up areas cover less than three per cent of Finland, but they are home to more than 80% of the population. Most urban areas are relatively small, with fewer than 10,000 inhabitants. Only 20 municipalities and 13 urban areas have more than 50,000 residents, and even the largest cities are not densely built up by international standards.

In Finland land use, spatial planning and construction are controlled by the Land Use and Building Act, which came into force in 2000.

The Land Use and Building Act aims:

- to organise land use and building to create the basis for high quality living environments,
- to promote sustainable development,
- to ensure open planning and participatory processes,
- to ensure that a wide range of planning expertise is available.

The national land use guidelines are a tool the Finnish Government uses to steer policy on land use issues that are important for the whole country. The guidelines relate to the regional and urban structure, the quality of the living environment, communication networks, the energy supply, the natural and cultural heritage and the use of natural resources. The national land use guidelines:

- are an assurance that issues of national importance are taken into consideration in regional and municipal planning and in the work of the state authorities
- promote ecologically, economically, socially and culturally sustainable development and create preconditions for a favourable living environment
- act as an advance guidance tool in local planning in issues of national importance and promote the consistency and uniformity of advance guidance all over Finland
- promote the implementation of international agreements in Finland
- create a basis in terms of land use for the implementation of national projects.

Under the Land Use and Building Act the national land use guidelines must be taken into account and promoted in regional planning, municipal planning and the work of the state authorities.

The system has three levels of land use plan with a clear division of labour between them: the regional land use plan, the local master plan and the local detailed plan. The land use planning system is hierarchical; higher level plans steer lower plans. The national land use guidelines are implemented mainly through regional plans. Regional and local plans are drawn up through participatory planning procedures, which give local residents the chance to get involved in the planning processes that affect them. Impact assessment is required for each plan to ensure the sustainability of the plan. Impacts to be studied include environmental and social impacts as well as impacts on community structure. Regional land use plans are drafted by regional councils, whose members are representatives from the municipalities. Individual citizens and non-governmental organizations are fully entitled to participate in the planning process. Regional councils also approve regional land use plans. These plans are then submitted to the Ministry of the Environment, where the legality of the plans is assessed before final ratification. A regional land use plan sets out a general framework for the more detailed local plans, which are prepared by the municipalities. The regional council must also ensure that the plan promotes the implementation of the national land use guidelines.

When the plan is being drawn up, special attention is given to the following:

- appropriate regional and community structure of the region ecological sustainability of land use environmentally and economically sustainable arrangement of transport and technical services
- sustainable use of water and extractable land resources
- operating conditions for the region's businesses
- protection of landscape, natural values, and cultural heritage
- sufficient availability of areas suitable for recreation.

Regional land use plans are legally binding, but nevertheless they leave plenty of scope for the municipalities to resolve local land use and development issues. To ensure that regional land use plans provide suitable guidelines for the local plans, they are reassessed and updated regularly according to the changing conditions. Finland's municipalities draft their own local land use plans, which must be approved by local municipal councils. Municipalities produce local master plans and local detailed plans to control land use and building. The plans aim to ensure that living environments are favourable, community structures function

well, vital services are available to everyone, and local natural and cultural heritage is safeguarded. Municipal planning procedures are based on openness and public participation. Finland's Land Use and Building Act (2000) ensures that local residents have the right to receive information about plans under preparation, and a chance to influence them. The right to participate in planning procedures covers everyone affected by plans, including local residents, landowners, public authorities, enterprises and organisations. Local master plans define land use patterns at municipal level in general terms, allocating different areas for different land uses such as housing, traffic, services and recreation. They may also be produced to control land use and construction developments in specific areas such as zones along shores.

Local master plans may be drawn up to cover all or part of a single municipality, or jointly by several municipalities. Jointly drafted plans must be approved by the Ministry of the Environment. Local detailed plans determine the characteristics of local neighbourhoods, covering land uses and all types of construction. The locations and sizes of buildings, streets and parks are all defined in detail. Plans may cover whole residential districts or even sometimes a single property. Developments along shorelines may also be controlled under separate detailed shore plans drawn up by municipalities or landowners.

Finland's Environmental Administration develops and controls land use planning and construction throughout Finland. Finland's Centres for Economic Development, Transport and the Environment additionally control municipal planning and construction within their respective regions. The Finnish Environment Institute (SYKE) conducts research and monitoring related to the built environment.

The Land Extraction Act applies to the extraction of stone, gravel, sand, clay and earth. The aim of the Act is to ensure that land extraction supports the sustainable environmental development. The Act includes restrictions on extraction that take into account scenery, natural sites and conditions as well as water quality issues. According to the Act, a permit is required for extraction, unless resources are extracted for ordinary household needs. An extraction plan needs to accompany the permit application, if the undertaking is not minor. The Ministry of the Environment and Centres for Economic Development, Transport and the Environment are responsible for overseeing and supervision of land extraction.

In **France** the following instruments are in place:

1. Implementation tools for assessing and informing planning applications:
   a) at the municipal level or group of municipalities:
      - PLU local Master Plan
      - CC communal Map
   b) At sub-municipal or neighbourhood level
      - AVAP Areas for Enhancement of Architecture and Heritage
      - PSMV Maintenance and Enhancement Plans
   c) with a thematic dimension
      - PDU Urban Travel Plan on Specified Urban Transport Areas
      - PLH local Habitat Program
2. Strategic and policy instruments informing the above
   a) strategic instruments

- SCOT territorial coherence scheme for a group of municipalities
- DTADD Territorial Planning and Sustainable Development Directive (supra-regional)
- PADDUC Territorial and Sustainable Development Plan for Corsica
- SDRIF Strategic Priorities for the Ile-de-France Region
- SRADT Regional Planning and Development Scheme

b) thematic instruments

- SRCE Regional Ecological Strategy Scheme
- MSMV Enhancement of Coastal Areas
- DPMVP Directive on Landscape Protection and Enhancement of Landscape
- DSF Strategic Document for Seafront areas (4 for France)
- PDH Departmental Housing Plan
- PRAD Regional Plan for Sustainable Agriculture

3) charters with implications for planning

- PN National Park
- PNR Regional Parks

Regarding the control of urban sprawl, SCOT clarifies the framework and sets the policy for implementations tools. Land management is set within these implementation tools.

The system of spatial and urban planning in the **FYROM** is regulated by the law on Spatial and Urban Planning. The Ministry of Environment and Physical Planning is the institution responsible for overall territorial development of the FYROM. The institution responsible for urban planning is The Ministry for Transport and Communications.

According to the Law, there is the:

- *Spatial Plan of the Republic of Macedonia*, which is the highest level planning document in the Country. It is adopted by the National Assembly (The Parliament of the FYROM). There is the law on the Implementation of the Spatial Plan. There are also spatial plans for the enforcement of the Spatial Plan, including: regional spatial plans, national parks, areas of the City of Skopje and municipal spatial plans.

These are supplemented by:

- *Urban Plans*, including: General Urban Plan, Detailed Urban Plan, Urban Plan of a Village, Urban Plan of Area Outside of Urban Zones and Urban Plan of a Neighbourhood. The urban plans are adopted by the Local Self-government (Municipality) if they are of a local significance or by the Ministry for Transport and Communications if they are of national significance.

In respect of land management and control of urban sprawl, the administration in the FYROM is organized in two levels, national and local-level. (There is no regional level of governance).

The agricultural land owned by the State is managed by the National Government - The Ministry of Agriculture, Forestry and Water Economy and it is regulated by The Law on Agricultural Land, while the building land owned by the State is managed by the local self-government according to The Law on Building Land.

Building inspection is conducted by the Local Self-government on its own territory, while the Local Inspection is controlled by The State Urban Inspectorate according to The Law on Construction.

In **Germany**, national policy is developed from the tier below, with the assembly of ministers of spatial planning of the 16 lander being responsible for formulating common principles of spatial development for the country as a whole.

At the regional level, the Federal Spatial Planning Act (Raumordnungsgesetz, ROG) regulates the aims, the instruments and the procedures of spatial planning. Article 2, paragraph 2 of the ROG states that the aims of spatial planning are to limit take of greenfield land (item 2, last sentence), to protect the natural functions of soils (item 6, first sentence), to economise natural resources (item 6, second sentence) and to reduce land take for settlements and transport by using the potential to recycle land, intensify existing built up areas or make use of other potential developments inside existing settlements (item 6, third sentence). On the other hand, these aims are counterbalanced by the aims of developing traffic infrastructures, promoting business development, social services, housing etc. which may lead to considerable additional land take.

Local planning is guided by the Federal Building Code. On this level there is nearly the same set of aims asking for the protection and economical use of space and soils on the one hand, and for the development of housing, infrastructures, commercial zones etc. on the other.

Consequently, there are always good reasons for additional land take at the expense of landscape protection and the preservation of fertile soils.

As for planning procedures, the public has to be involved and can give their opinion, but only the land owners (farmers) affected and NGOs dealing with nature protection are entitled to appeal to the court of justice against land take. As the plans will always contain compensation measures for the loss of ecosystem value, and as the ecosystem value of fertile soils in agricultural use is considered quite moderately and felt to be easily compensable, normally (if the planning authority commits no serious procedural mistake) there will be no legal way to stop the plans.

There are two main Laws for land planning in **Greece**, as well as a number of Presidential Decrees for specific issues.

Law 2742/1999 provides for spatial planning at national and regional level, as well as for major sectors. Currently we have in place one National Spatial Planning Framework (since 2008), 12 Regional Spatial Plans (since 2003) that are in the process of evaluation and revision, and 5 Sectoral Spatial Planning Frameworks (most since 2008) on prisons,

industry, renewable energy, tourism, and aquaculture. The National Council for Spatial Planning and Sustainable Development (NCSPSD) is used for advice and consultations.

Law 2508/1997 provides for urban planning. Since the structural change of Local Government in Greece and the merging of municipalities in fewer entities, the General Urban Plans (1 per municipality) have changed characteristics and have become small local spatial plans to a great extent. Therefore, existing urban plans need updating and adaptation. The NCSPSD is also advising for the Master Plans of big cities.
The planning system is accompanied by a Presidential Decree on the possible Land Uses and another one on the possibilities and conditions for Building Outside the areas covered by an Urban Plan.

The entire planning system (of all scales) is currently under revision in order to simplify procedures and accelerate the process of approval of the final plans by legal acts of appropriate level.

In **Hungary** land planning is divided into two parts: territorial and settlement planning. Territorial planning includes regional development and spatial planning.
Main legal acts in this field include Act No. 21/1996 on Regional Development and Spatial Planning, Act No. 26/2003 on the National Spatial Plan, Act No. 112/2000 on the Spatial Plan for Lake Balaton Special Resort District Area, Act No. 64/2005 on the Spatial Plan for the Agglomeration of Budapest, Act No. 189/2011 on the Local Municipalites of Hungary and Act No. 78/1997 on the Formation and Protection of the Built Environment.

The main objective of spatial planning in Hungary is to evolve a spatial structure matching the social, economic and environmental objectives of the country and create suitable conditions for sustainable spatial development at the same time.

On the top of the hierarchy of land plans is Act No. 26/ 2003 on the National Spatial Plan (NSP) which lays down the national regulations for land use and the spatial framework of spatial planning to ensure a balanced regional development. It also creates a framework for regional, county level and local regulations.

The National Spatial Plan includes the Plan of National Spatial Structure and national, county-level zones and all elements are regulated by related policy regulations.
The Plan of National Spatial Structure comprises land use categories, national technical infrastructure networks and individual technical facilities in scale 1:500 000. It determines the spatial structure of countries and high priority regions (Lake Balaton Special Resort District Area, Agglomeration of Budapest) including the location of infrastructure networks. It aims to harmonise land-use among Hungary's settlements and regions of different features and to develop an infrastructure network in accordance with the sectoral concepts. Spatial structure defines basic physical structure, disclosing uncontrolled development and unnecessary soil sealing.

County level spatial plans are elaborated in accordance with the goal of National Spatial Plan. County level spatial plans allow the consideration of regional and local interests and introduce restrictions during the preparation of settlement plans. Thus these can prevent the causeless designation of residential, economic, and recreation areas on valuable non built-

up areas (high quality productive land, valuable natural areas, etc.). National and county-level zones are applied for special protection purposes (nature conservation, landscape protection, preservation of productive land, etc.). The zoning regulation rules can restrict the designation of urban areas on these valuable areas. (See also Q3 and Q6)

In general, areas suitable for development, agriculturally idle or low-intensity territories, so-called 'brown zones' for various developments serve the protection of existing productive lands and the suppression of greenfield developments. Spatial plans can also restrict urban sprawl for the purpose of risk prevention (e. g. via restricting the designation of 'area of development' on flood reservoirs).

The Ministry of Interior oversees the tasks related to territorial and settlement planning including construction affairs (http://www.kormany.hu/en/ministry-of-interior). Since April 2013 the background institution of the Ministry providing advice and maintaining related information systems is named Lechner Lajos Knowledge Centre (www.lltk.hu). The Act on Regional Development and Spatial Planning (No.21/1996) defines the process of planning, the interaction between different scales and also sets the rules for coordination and public participation. Regional environment protection authorities are also involved in the planning process.

The National Spatial Plan is under revision. The modified act is expected to be accepted by the Parliament in October 2013.

A list of spatial planning related acts and regulations can be found here http://www.terport.hu/teruletfejlesztes/jogszabalyok

There are indirectly related acts and strategic level documents, as well, such as the National Rural Development Strategy containing measures for land protection (green investment vs. brownfield), the National Environmental Program 2009-2014 setting objectives for sustainable land use and remediation together with exact measures and responsible actors. The National Remediation Program since 1996 provides and inventory for prioritisation and clean-up of contaminated sites.

Italy

The Italian planning system, concerning processes and competences, is regulated by the 'Urbanistic Law' n° 1150 of 1942. An important reform was made in 1970, when Regions were created, with a corresponding decentralization of responsibilities.

At the national scale the Government performs the function of guiding and coordinating urban planning, through instruments that are not considered plans in the strict sense of the word. These instruments, rather, take the form of resolutions on general objectives or objectives relating to specific sectors. In addition, the national government is responsible for identifying the fundamental guidelines to be applied into the territory and for formulating the concrete programmes for nation-level action in the specific sectors.

There are 3 main levels of planning (regional, provincial, and municipal), that must produce planning instruments within the limits of general principles laid down by the laws of the State:

- regional level: Piano Territoriale Regionale (territorial regional plan)
- provincial level: Piano Territoriale di Coordinamento Provinciale (territorial plan on provincial co-ordination)
- municipality: Piano Regolatore Generale (Land use plan).

All three authorities are directly elected by the population.

At the regional/sub-regional scale there are two main instruments:

- The Piano Territoriale di Coordinamento; in many Regions it is called the 'Territorial Regional Plan' or 'Strategic Regional Plan'. This contains prescriptions and indications on land-use effective in relation to lower tier authorities (province, comuni) and planning instruments (province structure pan, PRG).
- The Piano Territoriale Paesistico (PTP) contains indications, prescriptions and restrictions relating to the protection and exploitation of the landscape, and is effective in relation to lower tier authorities and their planning instruments as well as the private sector.

At the provincial/local level there is:

- The Piano Territoriale di Coordinamento Provinciale (PTCP). This contains prescriptions and indications on land-use which local authorities and public administrations must conform to in the exercise of their respective competences.
- Piano Regolatore Generale (PRG) provides indications of land-use at the general/municipality level. It is a strategic plan that seeks to manage the most important structural land use (geomorphologic, water resources, vegetation, cultural heritage, protected areas, main infrastructures).

The regulation of urban development is the responsibility of the municipal administrations, and is determined by the regulations set out in the PRG (Piano Regolatore Generale). The basic law governing planning instruments is Law No 1150 of 17 August 1942, subsequently to speed the production of new plans. Most of Italian comuni now has a PRG which elaborates on the basis of a common model.

The Italian planning legislation currently in force finds its application in eight thousand municipalities which range in population size from a few tens to millions of inhabitants.

In **Kosovo** there are only two levels of government; the planning system is arranged across those two levels: the national level and the local level. The responsibility at the national level is to make the policy, while at the local level the emphasis is upon developing and managing the control of land use. The state controls the public land and it is responsible for the control and use of the land dedicated to national projects such as infrastructure development. It also cooperates with the local level too. The local level is responsible for developing and managing the land use for urban development and for controlling urban sprawl. The

instrument that the local level uses to control the use of land is known as the 'Municipal Development Plan and Urban Development Plan'.

The spatial planning system in **Latvia** functions at the national, regional and local level. At the national and regional level the plans are more generalized, concerning major trends and challenges, but at the local level it is typical for each land parcel to be planned. The planning documents are developed according to certain procedures that ensure public awareness and participation.

At the national level the 'Sustainable Development Strategy' and the 'National Development Plan' are developed. The 'Sustainable Development Strategy' also contains the Spatial Development Perspective which emphasises three main aspects:

- accessibility and mobility possibilities
- settlement, including economic development, human life and the work environment
- spaces of national interest – unique specific territories, which are significant for the development of the whole country.

There is also a regulation on developing a Marine Plan, although this has yet to be completed. The Marine Plan will determine spatial use in the territorial waters, continental shelf and exclusive economic zone, taking into account a part of land functionally tied to the territorial waters and coordinating interests of various sectors and local governments in the use of the territorial waters, the continental shelf and the exclusive economic zone.

The proposals of Objects of National Interest are approved by the government at a national level.

At the regional level each planning region develops the strategy for sustainable development which is a long-term spatial development planning document, specifying the vision of the long-term development, strategic objectives, priorities of the planning region and the spatial development perspective in writing and graphics. It is drawn up according to the state's long-term strategic objectives and takes into account other spatial development planning documents.

The planning regions also develop the development programmes which are mid-term documents and are drawn up according to the National Development Plan and the region's strategy for sustainable development, based on development programmes of local governments which are a part of the relevant planning region, as well as taking into account the development programmes of adjacent planning regions.

The programme contains the current situation analysis, tendencies and forecasts, as well as information regarding the process of drawing up the development programme, and shall determine mid-term priorities, the set of measures intended for the implementation thereof and the procedures for supervision of implementation of the development programme.

In local level a local government can have the following mutually coordinated spatial planning documents:

- sustainable development strategy of the local government
- local government development programme
- local government spatial plan
- local plans
- detailed plans, and
- thematic plans.

The first three mentioned above are compulsory documents. The others are optional. The strategy for sustainable development of a local government is a long-term spatial development planning document, specifying the vision of the local government's long-term development, strategic objectives, development priorities and spatial development perspective in writing and graphically.

In the spatial development perspective the guidelines for spatial development are specified. The most significant spatial structures, development priorities and preferable long-term changes of the local government are also specified and displayed schematically.

The local government development programme is a mid-term document which is developed according to the strategy for sustainable development of a local government and evaluates other spatial development planning documents at the national, regional and local level. It contains the mid-term priorities, the action and investment plan, the amount of resources necessary for the implementation of the development programme and the procedures for supervision of implementation of the development programme.

The local government spatial plan is the document where the spatial development vision and also the future settlement structure are set out. This document specifies the functional zoning and public infrastructure, the land use and building provisions, as well as other conditions including regulations of building new villages. It is a long-term document which is developed according to the strategy for sustainable development of a local government and taking into consideration other spatial development planning documents of the national, regional and local level.

The changes in the functional zoning specified in a local government spatial plan or in the provisions for the spatial use and building shall be drawn up as amendments to the local government spatial plan or as a local plan.

At this moment, the planning system in the **Netherlands** is in transition. New legal instruments were introduced in 2008 (Wro and Wabo) and later (Chw) and another overhaul is being prepared (Ow)[16]. At present, the new instruments under the new law have been announced in a legislative proposal, but this has yet to be ratified and is therefore subject to change. The response to the questionnaire provided details of the instruments in force, as of May 2013.

[16] Abbreviations of the stated laws, and specific instruments, are provided in Dutch due to the difficulties of translating into English. English translations are provided once in brackets.

- *Omgevingsvergunning [environmental permit]*: this is an all-in-one permit to change land-use introduced in the law Wabo. It combines the building permit and various other permits regarding water management, environmental quality, etc. into a single permit.
- *Bestemmingsplan [local zoning plan]* (municipality): a legally binding land-use plan; all omgevingsvergunningen must be in conformance with the bestemmingsplan. Once land has been zoned in this plan, landowners have the legal right to realize the zoning. This must be renewed every 10 years and published in digital form in the public depository of plans (www.ruimtelijkeplannen.nl). Because of the legal rights granted by a bestemmingsplan, they tend to be rather detailed and specific. In addition, many are made to enable a particular development initiative, and cover just a small area (informally referred to as 'postage stamp plans'). The entire country is covered by bestemmingsplannen. New bestemmingsplannen therefore either change land-uses or renew existing land use rights (for another 10 year period).
- *Projectbesluit [project decision]*: a streamlined procedure to change land use to enable development with the same status as a bestemmingsplan.
- *Beheersverordening [preservation plan]*: a bestemmingsplan that does not change land uses. It is legally identical to the bestemmingsplan. It is drawn up to extend the 10-year period of a bestemmingsplan.
- *Exploitatieplan [financial sector]*: this is part of a bestemmingsplan that describes the financial transaction of land and development gains, basically elaborating the ‘business case’ of the bestemmingsplan. If no agreement can be made among landowners and municipality via private law (e.g. a contract stipulating terms and conditions of sale of land), the municipality can draw up a exploitatieplan.
- *Inpassingsplan [zoning plan]* (province, national): this is the name for a bestemmingsplan made by a province or the national government. It is legally identical to a bestemmingsplan. The different name reflects the fact that it is imposed from above because provincial/national interests are at stake. Generally these plans concern infrastructure.
- *Voorbereidingsbesluit [preparatory decision]:* this is an official statement of intent to draw up a bestemmingsplan or inpassingsplan. It has the effect of preventing further development from occurring that could conflict with the envisioned function.
- *Structuurvisie [structure vision]* (all): this is a document where the desired future spatial structure is elaborated. All three governmental tiers (national, provincial, municipal) are required to draw up a structuurvisie. It has no official prescribed form, but is generally a lengthy document describing current spatial situations and trends as well as policy intents and strategies. The content of a structuurvisie is only binding for the government drawing it up, it cannot be used to evaluate building permits or plans by other governments. All structurvisies must include a section which elaborates the strategy to realize the stated objectives.
- *Verordening [ordinance]* (province): this document contains rules with which a bestemmingsplan must comply. The provisions in a verordening have the rule of law. According to the intent of the law, the rules should be specific enough to allow municipalities know beforehand whether or not a particular development is permitted. An example would be: "a bestemmingsplan shall not contain provisions which allow the realisation of new business parks or expansion of existing ones in areas indicated on map X as provincial landscapes". Some rules are less

unambiguous, as ones in which demand that the "spatial quality" or "core qualities" of certain regions not be "undermined". Since these rules are legally binding, a municipality adopting a plan in conflict with the verordening can be taken to court.

- *AMvB [regulations]* (national): this is identical to the verordening but at the national level. An AMvB can also compel provinces to draw up rules for local plans in their verordening.
- *Zienswijze [remarks]* (all): these are issued by provinces or the national government on a draft bestemmingsplan. They are not binding, but can be a prelude to future legal action (e.g. when this informs a municipality about a conflict with a verordening).
- *Proactieve aanwijzing [proactive directive]* (national and provincial): this is a directive issued to a municipality (or province) to draw up a bestemmingsplan with certain provisions. This instrument has never been applied, mostly because the instrument inpassingsplan is considered preferable.
- *Reactieve aanwijzing [reactive directive]* (national or provincial): this is an instrument issued by a province or national government to stop a bestemmingsplan (or part of one) from acquiring the force of law. It is issued directly after the plan has been adopted, and immediately suspends it. It is supposed to be used only in emergencies, as the general rules in Verordeningen and AMvBs should prevent this from occurring. Generally this is issued to enforce the Verordening instead of taking the municipality to court (which is more cumbersome).
- *Beroep [appeal]* (national or provincial): while not a planning instrument per se, higher tiers of government can appeal the decision of a municipality to adopt a local plan. This can be seen as an alternative route to the reactieve aanwijzing. This might become more prevalent in the future as the draft version of the new Environment and Planning Act (Ow) has done away with the reactieve aanwijzing.
- *Coördinatieregeling [coordination procedure]* (all): applying this instrument means that all the different instruments necessary for a particular development are combined into a single decision. Appeal by third parties can only be lodged against the entire package of instruments and this occurs via the Administrative Court (Raad van State).
- *Ontwikkelingsgebieden [development areas] (all):* this instrument, introduced by the Chw, allows for temporary relaxation of certain environmental standards to allow development.

It must be noted that the instruments above simply pertain to legal instruments under public law. Planning authorities can, and do use, private law in planning, for example by drawing up contracts or agreements or when setting up joint ventures. In addition, there is a wide variety of other instruments, such as financial instruments (subsidies) which are applied to guide land use.

In Poland the National Spatial Development Concept and Planning documents concerning:

- regional level (voivodeship spatial development plan)
- local level (municipal spatial development conditions and directions studies, local spatial development plans, the decision about building conditions and development land)

- functional level (strategies and related development plans for functional areas, such as urban, rural, mountainous and maritime functional areas).

Legislative measures should be construed as all statutes other than spatial development plans, such as: Act on development policy, a set of Acts relating to the management of natural environment (the majority of which have a major impact on spatial management), as well as strategies, programmes and plans adopted by the Council of Ministers that have impact on national spatial development. Those measures are the foundation of the planning procedure since they support the achievement of the spatial policy objectives and ensure sound spatial development. A precondition for legislative measures to function properly in the planning system is that they have to be coordinated with the spatial development policy:

- the Act of 27 March 2003 on spatial planning and development (Journal of Laws of 2012, item. 647 as amended). It lays down types, scopes and enacting procedures for particular planning documents at different public administration levels
- a set of Acts relating to the management of natural environment (the majority of which have a major impact on spatial management and soil quality) Auxiliary to spatial planning is the system of environmental impact assessments (EIA); it relates to all the planning documents and assesses the potential impact on the components of the environment. The EIA system is based on the Act of 3 October 2008 on provision of information about the environment and protection thereof, public participation in environmental protection and environmental impact assessments.
- Institutional Instruments
- Investment tools: so far the system has been fragmented and has not met its purpose, i.e. an effective implementation of the all levels spatial development policy.

Spatial planning is a management tool used to formulate aims and objectives of spatial development policy and to set out the way of implementing thereof. National Spatial Development Policy is implemented using a set of different instruments, in particular:

- spatial planning arrangements which are legally binding in relation of spatial development at the national, regional and local levels, or for isolated specific territorial complexes (functional areas)
- regulatory framework
- institutional and organisational solutions which determine efficiency and effectiveness of the spatial planning system, as well as of spatial planning institutions involved in development (planning and implementation)
- investment projects set out in mid-term and operational strategies and programmes in the realm of different public policies.

The institutional system supports and is a prerequisite of, the correct and effective achievement of the national spatial development policy's objectives.

The main components of the system include the following:

- the system coordinating the implementation of the national spatial development policy comprises all public bodies involved in the planning and policy implementation process; the national spatial development policy coordination includes:

  - national coordination – the Prime Minister and Ministers responsible for regional policy, construction, spatial development and housing, as well as a minister in charge of maritime economy in respect of the development of maritime areas
  - regional coordination – local government of the voivodeship,

- local coordination, as well as functional area coordination – the competent minister, local government or single-purpose local government associations,

- multilevel institutional system for the implementation of the spatial development policy which includes spatial planning offices and institutions responsible for the implementation of socio-economic policy. So far the system has been fragmented and has not met its purpose, i.e. an effective implementation of the spatial development policy
- spatial development and spatial policy implementation monitoring system, which supplies information necessary to make managerial decisions at all levels of the spatial policy system
- staff capable of development planning and management
- multilevel task partnership
- spatial and environmental data information policy.

It should be noted that as of January 1, 2013, spatial planning and land development at the regional (voivodeship) and national level, as well as cross-border and urban policy were transferred within the remit of Minister of Regional Development, by virtue of Act Amending Act on Portfolios of Governmental Administration and Other Acts of 13 July 2012.

Local (municipal) planning remains the responsibility of the minister responsible for construction, local planning and zoning, and housing – currently: the Minister of Transport, Construction and Maritime Economy. Therefore, the Ministry of Transport, Construction and Maritime Economy fills this enquiry with regard to the planning documents prepared at the local level. The rules and procedures for planning documents at the local level are determined in The Spatial Planning and Land Development Act of 27 March 2003. Article 10 of the Act sets out the procedures and conditions to be determined in the study of conditions and directions of spatial development. Article 15 of the Act sets out the procedures and conditions for local spatial development (land use) plan. These two planning documents are adopted by a municipal or city council, acting on the basis of draft submitted by the municipal executive body. Provisions of the study are binding in the process of preparing a local land use plan. The municipal executive body, while preparing a study consisting of both descriptive and cartographic parts, is to be in accordance with the principles set out in the National Spatial Development Concept, municipal development strategy, development plan and development strategy of the region. Change of agricultural or forest land into other purposes in the local plan requires approval of the Minister of Agriculture and Rural Development.

The National Spatial Development Concept 2030 (NSDC 2030), which was adopted by the Council of Ministers on 13th of December 2011, is the most important national strategic document that addresses the spatial management of the country. It has been prepared pursuant to the provisions of the Act on Spatial Planning and Development of the 27th of

March 2003. The arrangements and recommendations resulting from NSDC 2030 and applicable to the preparation of voivodeship [NUTS-2 area] spatial development plans have also been defined pursuant to the statutory requirements.

NSDC 2030 has many characteristics of a development strategy, combining spatial development components with the factors of socio-economic development. A crucial role of the NSDC 2030 is to identify functional areas, such as urban (FUA), that requires support of development processes, accessibility areas and land-sea continuum areas. Voivodeships are obliged to delimit some of them in their spatial development plans. In the context of controlling urban sprawl, the most important are functional urban areas (voivodeship centres, including metropolitan (metropolitan areas), regional and sub- regional centres), rural functional areas and areas of soil protection for agricultural production.

NDSC create same permanent spatial policy principles concern all space-related human activities. The key principle is the systemic sustainable development principle. By applying this rule to economic, environmental and social capital, were directly inferred the brownfield before greenfield development principle, the ecological prudence principle, the ecological compensation principle. “The brownfield before greenfield development principle” – means intensification of urbanisation in developed areas to minimise urban sprawl. In practice, this principle prevents scattering of investment projects, contributes to the effective use of urbanised areas and prevents degradation of urban space (the principle requires space to be recycled and existing resources to be used).

Current laws and regulations strengthen negative trends and block development opportunities, mainly in urbanised areas, promote scattered development and extensive land use, cause the loss of high nature value areas in cities and their vicinity.

Due to the lack of adequate spatial management system regulations (lack of obligatory land consolidation), it is the ownership and spatial structure of farmland that determines the new land development model. Consequently, the arrangement of buildings and structures is too extensive and chaotic, while some areas are permanently abandoned.

Examples of related policies:

- Environmental protection Act of 27 April 2001 - It contains a definition of land protection: preservation of its quality through sustainable management, protection of nature value, land production function, soil quality at level of certain standards or remediation of soil if the standards are not met, protection of archaeological sites. According to the Act in spatial planning a sustainable management of nature resources must be ensured through programs of balanced land use, proper waste management, transport systems, green areas management, soil and landscape value protection etc. The Act introduced continuous national monitoring of soil quality, including measurement of various contaminants and delineation of contaminated areas. Administration of LAU-2 level is obliged to develop and update register of contaminated sites. During construction work the investor must ensure environment protection including soil, green areas and water retention. If it is not possible to protect the environment as is, it is required to apply environment protection measures, including soil remediation, afforestation, green clusters etc.

- The Act of 3rd of February 1995 on the protection of agricultural and forest land - the objective is to protect agricultural and forest lands through prevention of degradation as result of non-agricultural activities and reclamation of degraded areas. The Act specifies that who causes degradation of land agricultural function must recover this function on own expense. If it is not possible to indicate the person that caused degradation the remediation is paid from the Agricultural Land Protection Fund. The act does not cover urban soils. For more information see questionnaire part 2 on soils.

In **Romania**, there are plans at each tier of governance:

- *National level*: Territorial Development Strategy of Romania, National Spatial Planning Plan
- *Regional level*: Regional Zonal Spatial Planning Plan, Zonal spatial planning plan inter-county, inter-municipalities
- *County level (NUTS 3)*: County Spatial Planning Plan
- *Local level:* General Urban Planning Plan, Zonal Urban Planning Plan, Detailed Urban Planning Plan.

In Romania, the legal framework for carrying out the spatial and urban planning activities was completed in 2001 by the promulgation of Law 350/2001 on Spatial Planning and Urban Planning. This establishes spatial planning objectives:

a. balanced economic and social development of regions and areas, in observance of their specific nature;
b. improving life quality for people and human communities;
c. accountable management of natural resources and environmental protection;
d. sound land management.

Spatial planning is a compulsory activity which takes place on a continuous and long term basis, in the interests of those that use the territory. The activities respond to the values and aspirations of society and with the requirements related to integration within and across European space. The activities also respond to the institutional structure and the duties of the central, county and local public administration in the field who are responsible for endorsing and approving the spatial and urban planning documents.

The spatial planning concept in Romania is connected to the main European documents in this field.

This is materialized by studies, plans, programmes and projects that harmonize, at territorial level, the economic, social, environmental and cultural policies in order to ensure the sustainable development of various country regions, in terms of space.

In accordance with Law 350/2001, the spatial planning activity is carried out on the entire Romanian territory based on the principle of hierarchisation, cohesion and spatial integration at national, regional, county, city and commune level, creating the appropriate framework for

balanced development and sound use of territory and accountable management of natural resources and environmental protection.

The activity in the above field is coordinated at national level by the Romanian Government, which sets up priority programmes, guidelines and sector policies, in relation to the content of the Governing Programme.

The Ministry of Development, Public Works and Housing is the specialized body of the Government in the field of spatial planning and urban planning and, in this capacity, has the following main duties:

- ensures the elaboration of the National Territory Plan– PATN;
- ensures the elaboration of the Regional Territory Plan– PATR – which substantiates regional development;
- ensures the elaboration of the General Urban Planning Regulation;
- ensures the collaboration with ministries and with the other bodies of the central public administration in order to substantiate strategic sectorial programmes in terms of spatial planning and urban planning;
- ensures the collaboration with regional development councils, county councils and local councils, and the follow-up of the manner in which government programmes and guidelines are applied in the field of spatial planning and urban planning at regional, county and local level;
- ensures endorsement of spatial planning and urban planning documentations, according to the competences established by this law.

The county council coordinates the spatial planning and urban planning activity at county level, according to law, and establishes general guidelines regarding spatial planning and organization and urban planning of localities, based on spatial and urban plans. For this purpose, it coordinates the activity of local councils and provides them with specialized technical assistance.

The county council ensures the inclusion of the provisions of the national, regional and area spatial plans within the spatial and urban planning documentations for the administrative territories of the localities of a county, ensures the elaboration of the County Spatial Plan, of regional spatial plans which are of county interest and approves them according to the law.

The local council coordinates and is responsible for the entire urban planning activity carried out on the territory of the administrative and territorial unit and ensures the compliance with the provisions included in the approved spatial and urban planning documents. The purpose is to carry out the urban development programme of the localities forming a commune or a city. The local council uses information from all the fields of the economic and social activity in order to fulfil its duties in the spatial and urban planning field.

The spatial and urban planning activity at national level is coordinated by The Ministry of Development, Public Works and Housing, which regulates the field and also exercises state control in connection with the implementation of the provisions and regulations included in the spatial planning and urban planning documentations. The Directorate-General for Spatial Development – a functional department within the own body of the Ministry of Development,

Public Works and Housing, ensures the fulfilment of its duties in the specific field of activity, being in charge with national and regional spatial planning and development, territorial cooperation, urban planning and spatial planning, management and development of urban and real estate programmes, housing.

The Department for Spatial Planning is an operational department of the Directorate-General for Spatial Development which coordinates:

- the activity in the spatial planning field, at national, area and regional level;
- the detailed observance of the strategic concept in spatial arrangement plans;
- the activity of elaboration of the National Spatial Plan (NSP) and of the Regional Spatial Plan (RSP), and of other spatial plans and projects according to its duties established by law;
- the methodological regulation activity related to the elaboration of spatial planning documentations;

The National Institute of Research and Development URBANPROIECT and the Documentation Centre for Constructions, Architecture, Urban Planning and Spatial Planning operate under the coordination of MDPWH. The above institutes were established in order to carry out the activity of scientific research and technological development in the urban planning and spatial planning field.

Units that are specialized in the field of spatial planning and urban planning operate within the County, Municipal or City Council and within the General Council of the Municipality of Bucharest. These units are headed by the chief architect of the county, municipality or city, and by the chief architect of the Municipality of Bucharest.

The position of chief architect is held by a civil servant whose background is that of an architect or urban planner who graduated from a long-term higher education institution.

In **Slovakia**, planning is structured around:

a. Slovak Spatial Development Perspective,
b. Regional development plan,
c. Municipal development plan,
d. Zonal development plan.

For **Slovenia** at the national level the main document defining spatial policy in Slovenia is the Spatial Development Strategy of Slovenia (2004) that provides the framework for spatial development across the entire national territory and sets guidelines for development within European space. It provides the concept of spatial planning and management, land use and spatial protection. Planning instruments are laid down in three major acts that constitute the framework of land management. These are:

- *Spatial planning act* (2002), which covers implementation measures,
- *Spatial planning act* (2007), which lays down types of spatial planning documents, their content and mutual relations and procedures for their drafting and adoption,
- *The act regarding the siting of spatial arrangements of national significance in physical space* (2010), which deals especially with National Spatial Plans.

However, due to a (recent) sectorial approach to spatial planning, this framework does not stand alone. Acts such as *Environment protection act, Nature conservation act, Waters act* and*, Agricultural land act* also heavily supplement the framework. As mentioned the state is responsible for "Spatial Development Strategy of Slovenia" and for numerous National Spatial Plans for various types of "spatial arrangements of national importance" (highways, power plants, power lines, railways, etc.).

Municipalities (local level): Detailed land use planning is done only on the local (municipal) level (Municipal Spatial Plan, Municipal Detailed Spatial Plans). Local municipalities (211 in total) are in charge of the rest of physical space and for all other spatial arrangements, which means that most of spatial planning and land management are carried out at local level, Municipal Spatial Plan being the central spatial document. Detailed Municipal Spatial Plans can also be adopted afterwards in each municipality. The final municipal plan is carefully examined by national authorities (i.e. ministries, agencies) before being adopted.

Due to a lack of institutional regional level in Slovenia, there is hardly any regional spatial planning being carried out. Regional Spatial Plans are an option, but their adoption requires the consent of each involved municipality. In conclusion the regional level has currently little importance for land planning.

Urban sprawl (near urban centers) and greenfield investments (mainly for individual housing, also business zones) are a problem and are often a focal point of strife between the Ministry in charge of agriculture and environment and Ministry in charge of spatial planning on one side, and local municipalities on the other side. The problem is that “local level” (municipalities) are less willing to enforce strict national-level rules on urban sprawl and the preservation of agricultural land in the face of attracting investments and appeasing their constituents.

Notably the databases of spatial data are inconsistent, outdated, incomplete. There is no comprehensive overview of brownfield sites and the relevant register; there is no national/regional evidence regarding the land use change, loss of agriculture land (Greenfield investments) etc.

In the **Spanish** land and urban planning domain, the Regional administrative territories (Comunidades Autónomas) have wide competence in urban activities. It comes from the division of competencies between State and Regions established by High Spanish Constitution Law 1978 and following laws over land planning issues. Therefore the description below describes the situation in general terms, without going into specific scopes in respective regional territories.

The main land planning tool is the ‘PGOU - Plan General de Ordenación Urbana’ (urban planning and ordination general plan). It is drawn up by the Municipality administration and approved by Regional government. In this document the municipality urban planning strategy is detailed, and the scope for development established (future and/or possible). For the most part, where Municipalities do not have a PGOU (in general small towns, villages and settlements) there are Subsidiaries Rules that supply description about land planning.

To complement the PGOU there are other different tools of land planning development:

- 'Planes Parciales' (partial plans)
- 'Planes Especiales' (special plans)
- 'Proyectos de Urbanización' (urbanization projects)
- 'Estudios de Detalle' (detailed researches), etc.

More than these previous urban planning instruments, at regional level, there are different plans for territorial ordination that are the main tools available for supra-municipality administrations (under national) to control and guide the urban growth and un-controlled urban sprawl.

Inside the particular national scope of urban competences in the State, there is the land planning law 'Ley del Suelo – RD Legislativo 2/2008, 20th june, (Land Law) that defines principles for urban and territorial sustainability to be applied at general level, and establishes the creation of 'SIU - Sistema de Información Urbana' (land planning information system) who collet 'urbanistic information' about the entire country and coordinate with Regional governments and local administrations.

In **Switzerland**, the following exists:

- Overarching national strategies (Swiss Spatial Development Strategy)[17]
- Concepts (e.g. landscapes) and Plans (e.g. Transportation, Energy)
- Cantonal level: Richtplanung (spatial development concept and plan)
- Community level: Nutzungsplanung (zoning), Baubewilligungsverfahren (construction permits).

There exists a clear hierarchy between plans in **Turkey.**

At the national level there are development plans prepared by the Ministry of Development. The tenth such plan is being prepared. Also at the national level the Ministry of Environment and Urbanism has been preparing a national spatial strategy plan.

The 'Spatial Strategy Plan' is a plan consisting of vision, policies, spatial strategies, dynamic annual programs, and strategic goals. It contains information about Turkey's geo-strategic location and provides a summary of transnational regional developments, national development, and observations concerning regional development disparities. It also focuses on the interactions between regional and local tiers, competitiveness, the establishment of inter-sectoral relations, and the promotion of balanced and sustainable growth, and the conservation of natural, historical, cultural and environmental values.

The national 'Spatial Strategy Plan' aims to develop national and regional scale spatial development strategies by considering socio-economic and spatial data both with national and international dynamics within the scope of development and regional plans. It determines a regional and urban hierarchy, identifies the opportunity for new cities and for re-defining the roles of existing cities, and develops spatial development alternatives and scenarios, such as the creation of attraction centres or urban development corridors.

[17] http://www.are.admin.ch/sachplan/index.html?lang=de&download=NHzLpZeg7t,lnp6I0NTU042l2Z6ln1acy4Zn4Z2qZpnO2Yuq2Z6gpJCDdoR6gmym162epYbg2c_JjKbNoKSn6A--

At the national level, the regional development national strategy has been prepared by Ministry of Development.

At the regional level there are regional plans which are prepared by Development Agencies in the regions (at NUTS-2 level). However, those plans do not have a spatial dimension. Therefore at this level the Ministry of Environment and Urbanism prepares the regional spatial strategic plans. The 'Spatial Strategy Plan' develops national and regional scale spatial development strategies by considering socio-economic and spatial data both with national and international dynamics within the scope of development and regional plans.

Under these plans, there are territorial plans prepared by the Ministry of Environment and Urbanism and Metropolitan Municipalities. A territorial plan is a macro scale plan that determines land-use decisions such as settlements, housing, industry, agriculture, tourism, transportation in accordance with the national and regional plan decisions.

Territorial plans aim to determine conservation and development policies and strategies to orientate urban and rural development (social, economic, spatial) in a healthy way by preventing irregular urbanization and industrialization, to protect sensitive zones and environmental values (coasts, forests, wetlands, cultural and historical values, etc.), and to prevent the misuse of agricultural land. They make land use decisions as a basis for land-use plans and implementation plans. The majority of Turkey (97%) is covered with Territorial Plans.

Then in the local level there are land-use plans and implementation plans that are made by Special Provincial Administrations and Municipalities.

There are also sectoral plans and integrated plans for coastal areas.

At the national level, the Ministry of Environment and Urbanism is responsible for land management and control of urban sprawl whereas in the local-level, Governorships, Special Provincial Administrations and Provincial Directorate of Ministry of Environment and Urbanism are responsible for land management.

Question 2a - Please identify the key drivers of change (socio-economic and environmental) and prime challenges arising to which land planning must respond.

Overview

Question 2a received eighteen responses. No response was received from Germany for this question.

A variety of drivers and challenges were outlined by the respondents, and these are presented in the individual country responses attached. Urban sprawl was identified as a specific challenge by Bulgaria, Croatia, Estonia, Italy and Slovakia but the issue was also implicit in a number of the other responses too. The environmental consequences arising from these flows were generally acknowledged but there were few specific references to the impact upon soils and ecosystems.

Albania, Bulgaria and Latvia referred to rural depopulation as a particular driver of sprawl with residents choosing to move towards towns and cities where the potential for work, and the quality of facilities, were perceived to be better. It was suggested that the strength of these flows had increased with the onset, and continuing impact, of the economic crisis. The loss of these rural residents was felt to be undermining the ability to provide key services and facilities in these areas, leading to the increased risk of rural poverty and to growing spatial inequalities. In terms of this last point, growing disparities were noted between the 'centre' and the 'periphery' in the responses provided by Finland, Bulgaria, Estonia and Italy. In some areas, there was growing pressure to use agricultural land more intensively, with lower yield areas being subject to abandonment (Estonia). Increased wealth and improved living standards, together with a desire for greater personal space, were mentioned in the responses from Romania and Switzerland.

Sprawl was generally occurring around larger centres of population but urban growth in coastal areas was raised through the responses received from Italy and Croatia. Linear development along key transport routes was mentioned by Estonia, while the development of new infrastructure in Slovakia was presenting certain challenges concerning the protection of some sensitive sites and areas. The concentration of growth was leading to certain externalities; growing pressure on urban infrastructure was raised through the response from Switzerland. Some of this sprawl had been encouraged (or at least accommodated) through plans, but the responses from Turkey and Croatia raised concerns over illegal (and, in some cases, unsafe) development.

In terms of broader challenges, uncertainty over future levels of population growth (or decline) was raised by the Netherlands. The impacts arising from these changes, in terms of the demand for particular land uses, were felt to be uncertain. For example, urban sprawl was still occurring in parts of Italy despite evidence of population decline. The Dutch response spoke of the impacts arising from an over-supply of business space that had arisen as a result of some overly-optimistic employment forecasts. Changing forms of technology were also identified by the Dutch response, with the suggestion that increased performance from electric cars could increase the demand for road space and limit the contribution from rail services.

Climate change was mentioned by the Dutch and Italian responses, with the former referring to the threat posed by rising sea-levels.

Many of the responses spoke about how they were responding to these challenges. For instance, some countries referred to the strategy embedded in Europe 2020 for encouraging territorial cohesion and tackling intra and inter-regional differences. Some referred to certain principles that they would be looking to further orientate towards. For example, the Croatian response spoke of a desire to make the implementation of policy more successful. The Belgium response referred to the need for local planning to become more inclusive, a view also shared by Kosovo. The need to encourage cross-boundary cooperation was identified by the Swiss response, while Kosovo expressed a desire to make greater use of GIS in plan-making.

Summaries of Country Responses

Key challenges in **Albania** include:

- Poverty in rural areas
- Uncontrolled demographic movement of the population
- Legalisation of this movement
- Poor level of planning and management of environmental space.

The **Belgium (Flanders)** response referred to how land planning should respond to societal needs, be cost and time efficient, and involve all possible stake holders at the start of the planning process. Soil quality, of course, needs to be taken into account to create a sensible framework for land planning.

In **Bulgaria** there is analysis that reflects the status, problems and opportunities for development of the regions in light of the territorial dimension of development (that take into account the objectives of European cohesion policy).

Sustainable development of the regions in Bulgaria is difficult due to the general tendency to reduce the country's population in less developed areas and the subsequent migration to more attractive areas and cities such as Sofia. The economic crisis deepens and strengthens these demographic flows leading to disproportions in the territorial distribution of the population.

It is necessary to seek approaches to strengthen the role of other major cities such as balancing centres. With the absence of other large cities, the attractiveness and buoyancy of existing medium-sized cities should be properly stimulated. The network of small and medium-sized cities is developed evenly in Bulgaria, which is beneficial to serve the rural areas around them. Declining population in these centres and the difficulties in the realization of their economic, social and cultural functions is a worrying phenomenon. Action needs to be taken for their stabilisation. The proximity of the towns to the villages is a factor that is important to use in the future as it creates opportunities to improve the "city - village" relationship. Small towns, in the fulcrum of the settlement network, can serve rural areas by offering a wide range of public services.

More serious are the disparities between regions and municipalities. There are characteristic issues of "centre-periphery" with the presence of backward communities with low capacity and serious difficulties in their demographic, socio-economic and infrastructural development. These communities form a large territorial area that fall within the category of "areas targeted for support" according to the criteria of the Regional Development Act.

More favorable is the general socio-economic situation in the municipalities of the large and medium-sized towns and their adjoining urban areas due to better conditions for entrepreneurship and business, and better conditions in the social sphere. At this time there is very limited progress in addressing internal regional differences / inequalities. This

problem should be a prime focus of the objectives of the NRDS - to mitigate the identified disparities[18].

Land policy in **Croatia** is an integral part of the overall development policy of the state and a necessary condition for the realization of the policy of editing an area. However, they are not implemented satisfactorily through the current regulations in the field of spatial land planning and the use of construction land management. This score level of efficiency is primarily related to establishing and implementing policies for the construction land, and then to the use and protection of building land, providing conditions for the preservation, development and rational use of natural and manmade created values (especially land in urban and other settlements with urban characteristics), then the state and county roads, coastline, the rivers, lakes and other goods to the public interest.

Inadequate implementation of the legislation, as well as the absence or non-implementation of spatial and urban planning has led, in recent times, to different usurpation of land. Development has occurred on agricultural land and there has been illegal construction along the state and other road and marine coastal areas, as well as tourist areas. According to the analysis of the situation, these degraded areas are a lot, especially in the big cities and coastal areas. Therefore, the regulations on the handling of illegally constructed buildings in order to create conditions for rehabilitation of areas where there are possible re-implementation of real physical plans and quality monitoring changes in land use.

Key challenges in **Estonia** include:

- Polarisation of the use of land: some of the land is disused, while some is used too intensely (in terms of technology used per hectare, incl. the concentration of human settlements in coastal areas)

- Agricultural use of land has decreased by one-third over the last decade. Fallowing of low-yield areas and intensification of production in high-yield areas with unprotected groundwater are continuing trends. In the areas that are not suitable for intense agricultural production primarily due to low soil fertility (islands, coastal areas, rolling landscape), a large part of agricultural land has been excluded from use and has overgrown with weeds and brush

- Construction of new roads and communications networks contributes to the fragmentation of natural landscapes and the green network by highways and hydro-technical constructions

- Urban sprawl is accelerating near larger cities and along major roads. Notwithstanding the Nature Conservation Act, intensive building activities can be observed in several coastal regions (on Western Estonian islands, in the immediate surroundings of Tallinn)

[18] Ministry of Regional Development and Public Works (MRDPW)- http://www.mrrb.government.bg

The National Statistical Institute (NSI)- http://www.nsi.bg/indexen.php

- Land is subsiding above underground oil shale mines, causing changes in the water regime and difficulties in management.

- The sealing of soil through the permanent covering of soil with hard surfaces such as roads and buildings, including an increased flood risk by making run-off more rapid and causing peak discharge to be greater
- Landslides
- Waste to land contamination
- Change in soil biodiversity

Population growth in Finland has been concentrated in recent years in larger cities, and particularly in the Helsinki Metropolitan Area. Many smaller settlements and rural areas are suffering from depopulation, due to the migration to these growth centres. Annually 22,000 – 36,000 new dwellings have been completed between the period 2001 and 2011. Of those 36 – 48 % has been single family houses. There has been clear variation between the years, and the numbers have been highest in the middle of the period.
As mobility and migration have increased within Finland, the characteristics of local areas have become a more important factor when people choose where to live.

Finnish legislation on land use and building defines quality requirements for residential environments and the spatial structure of communities. Good residential environments must be healthy, safe, pleasant, and socially functional. The environmental administration provides valuable information on the significance of environmental quality for residents, and also helps local authorities to adopt participatory planning procedures. Built-up areas in Finland typically use much more land per inhabitant than built-up areas in other western countries, or even in the other Nordic countries.

One strategic aim of the environmental administration is to integrate the spatial structure of communities better, in order to reduce traffic and emissions, and to improve the aesthetic aspects and the functioning of communities.

In **France**, planning documents (SCOT for strategic issues; PLU and communal plans for implementation level) must include a "planning sustainable development project" (PADD) in which the group of municipalities details how it want to develop and manage their territory in accordance with the principles of sustainable development. It sets out the objectives of planning policy, housing, transport and travel, retail, facilities, economic development, tourism and cultural development, electronic communications, nature conservation, protection and enhancement of agricultural, forestry land and other landscapes, the fight against urban sprawl, and the preservation and restoration of ecological ecosystems.

The "guidance and objectives document" (DOO) is the implementation mechanism for the Territorial and Sustainable Development Plan (PADD). In compliance with the guidelines set by the PADD, the DOO determines the general direction for spatial planning and overall balance between urban and rural, natural, agricultural and forestry areas. It defines the conditions of controlled urban development and the principles for restructuring urbanised areas, revitalisation of urban and rural centres, development of city entrances, enhancement of landscapes and risk prevention.

The "presentation report" explains the choices made to establish the planning and sustainable development project and the guidance and objectives based on a diagnosis of economic and demographic forecasts and needs (economic, spatial, environmental, social, housing, transport and infrastructure services). It presents an analysis for the use of natural, agricultural and forestry land in the ten years prior to the approval of the project and justifies future use.

The local self-government in **the FYROM** along with the national government, is responsible for social and economic issues in its territory. In that context, the activities of the municipalities are primarily focused on the adoption of urban plans in order to enable the building of commercial facilities which in turn will give the opportunity for employment of the local population. The elements for protection of the environment are followed according to The Law on the Environment and The Law on Nature Protection.

In **Greece**, it was noted that socio-economic factors and, more specifically, the need to accelerate investments are usually those pushing for clarity in planning and approval of specific plans. The challenge is to better satisfy the needs for economic development with a parallel respect to environmental factors (therefore, sustainability).

For **Hungary** according to Act on Regional Development and Spatial Planning (No 21/1996) the spatial planning process is to explore and evaluate the characteristic of an area including environmental features, to harmonise spatial planning goals across scales as well as with related planning and development goals and to achieve a spatial structure in accordance with the sectoral concepts and a land use taking into account both the development goals and the pressures on the resilience capacity of the environment. Spatial planning responds to changes primarily by the regular revision of spatial plans.The National Spatial Plan (NSP) is revised on a 5 year basis. Regular revision of NSP is essential since a shift can occur in national spatial foci and development trends, the situation of border regions may change and the suburbanisation-urbanisation processes may also accelerate.

Modernisation of the infrastructure network of national importance, a determinant of the national spatial structure, has speeded up. In the context of Hungary's EU membership, the international spatial connections of the country are gaining significance and these developments induce further changes.

Revision of National Spatial Plan is also essential because of recent changes in the normative frameworks at national level (many new sectoral concepts were elaborated and changes in the general approach also occured).

Besides, a large number of spatial plans of the counties and special regions were developed and adopted. The general professional and practical planning results of these plans should be reflected in the revised national level plan, too.

It is important to highlight that 85% of the country's territory is suitable for agricultural or forest management, with a high proportion of arable land. Land and soil are regarded as the most important national resources. Despite the existing instruments and measures,

unfortunately an area of 4 thousand hectars per year have been taken out from agricultural production in the last 5 years due to various investments in Hungary - although there are significant areas that are not used or underused and would be suitable for development. Therefore the new NSR and its regulations have to restrict more efficiently the greenfield developments and protect the valuable soils of Hungary.

By using various spatial planning instruments in a coherent manner we should ensure that the changes are in line with the spatial-environmental criteria and promote sustainable spatial development in the highest degree possible.

Challenges in **Italy** were defined as:

- Incorrect agricultural practices
- Concentration of human population
- Climate change and land use/land cover change
- Limit or totally inhibit environmental equilibrium.

Comparing population and settlement dynamics in several Italian municipalities, some typical features of Italy's recent urbanization emerge: until the mid '70s settlement development trends follow demographic growth. From the mid '70s the two dynamics decidedly diverge, since demographic growth nearly reset to zero in almost all local frameworks. Urban sprawl, on the contrary, keeps increasing with the same growth rate.

Urbanization on coastal areas plays a particularly important role also because of the physical conformity of the country. In Italy about 30% of the population lives in 642 municipalities located along the coastline, without taking into account seasonal and tourist flows. In the last decades, Italian coasts (over 8,000 km) underwent a strong 'anthropization process'; in many cases, this process has changed natural and environmental features of the territory. Contaminated sites are another critical issue.

In **Kosovo**, the key challenges were identified to include:

- Making Spatial and Urban planes based on good quality data using GIS
- Making objective rather than subjective land use plans within spatial/urban plans
- Improving the public hearing (involvement) process (let the owners know in detail about the future use of their land)
- Improving the mechanism of implementation of spatial/urban plans.

The drivers for change in **Latvia** were presented as:

- Higher unemployment in rural areas compared to cities
- Limited educational options in rural areas compared to cities
- Worse infrastructure conditions (i.e., lack of central sewerage system and/or electricity) in rural areas compared to cities.

Their challenges included:

- Low population density in rural areas, mainly in coastal and border areas

- Outflow of population to cities and abroad.

The key driver of land-use change in the **Netherlands**, as elsewhere, is demography (generally measured in terms of households rather than individuals). This will affect the demand for housing, public facilities and shops to which the planning system must respond. For the first time in the post-war period, the Dutch planning system – traditionally oriented to accommodating growth – is having to deal with demographic decline. According to the most recent prognoses, most regions of the country could either experience growth or decline up to 2030 (the uncertainty is large). This uncertainty poses a great challenge for planners to devise policies which make sense in both scenarios. Demographic change is also dependent on social norms (e.g. when to have children and how many) and public policy (e.g. on immigration), adding a further uncertainty.

Another key driver is economic growth, as this is directly responsible for the demand for office space, business parks, and indirectly for infrastructure, retail and housing demand. Overly optimistic estimations of demand and lack of municipal coordination created significant oversupply in commercial property in the 2000s. Amsterdam, for example, has one of the highest levels of vacant office space in Europe. The availability of credit on the capital market is an important driver behind development.

Technological developments are also important. Efficient electric cars could make travel by car cheaper, creating more demand for road infrastructure and diminishing demand for rail. Increasing levels of flexi-working has reduced demand for office space, driving up vacancy rates. It is notoriously difficult to predict these kinds of changes, and even harder to predict what kinds of effects they will have.

Climate change is a long-term driver which will affect the Netherlands. The rising sea levels will not only pose a direct threat to the low-lying country, but the changing levels will also affect the speed at which excess water from river discharge can enter the sea. More room will need to be set aside on riverbeds to accommodate seasonal flooding. Dutch planners are also experimenting with floating homes and financial constructions to allow private parties to take on flood risk themselves.

Finally, public policy can be a driver or inhibiter of change. The (de)regulation of the housing market, including mortgages, together with fiscal policies can profoundly affect demand in certain segments of the market. The supply and type of infrastructure can affect the demand urbanisation. The designation or modification of nature areas and protected landscapes affect the speed and direction of urban growth.

Creating spatial order is the main objective of spatial development at all planning levels in **Poland**: national, regional, local and functional.

External effects of socio-economic activities (including housing expansion) are an increasingly important area of development policy intervention. Therefore, spatial development is currently one of the most important instruments of building territorial cohesion. The sphere of spatial management, reflected in spatial, social, economic and environmental order, determines the cohesion of socio-economic and ecological systems.

The process for forecasting and planning future growth, and resolving associated conflicts, is fundamental in the endless game to determine the arrangement of space. The process for achieving sustainable development, regulated by means of formulating rules and objectives, defines the integrated order of policy and combines:

- Social order, defining strategic objectives, measures and projects intended to improve the quality of life of the population
- Economic order, defining strategic objectives and measures generating effective socio-economic development
- Environmental order, defining conditions and strategic objectives of nature conservation and efficient environment management intended to establish ecologically sustainable development (eco-development).

Spatial management determines the factors of socio-economic transformation and the mechanisms of spatial development. It diagnoses conditions of spatial order, indicates sites of disturbed ecological balance, defines interregional flows of contamination of the natural environment and projects economic growth consistent with sustainable development. The implementation of such a concept within the remit of spatial management ensures conditions of maintaining environmental balance. Factors in spatial planning and land development include:

1. Requirements of spatial order, including urbanism and architecture, architecture and landscape values
2. Requirements of environmental protection, including water management and protection of agricultural land and forests
3. Requirements of the protection of cultural heritage and cultural monuments and the objects of modern culture
4. Requirements of public health and safety of people and property, as well as the needs of the disabled
5. Economic values of space
6. Ownership rights
7. Needs of national defence and security
8. Needs of public interest
9. Need for the development of the technical infrastructure, especially broadband networks.

It should also be noted that in the process of drafting both municipal planning documents, environment impact assessment is prepared. It determines and assesses the existing state of the environment, as well as the possibility to improve it.

Besides legal effects of the plan (creating land ownership terms and conditions), consequences for the environment and many aspects of social conditions (sociological, demographic and other), the "new" description of the conditions of land use established by local spatial development plan, usually has a direct impact on the change of the value of land property. The introduction of new provisions set out by the plan may also involve the obligation of certain expenses, such as the construction of technical infrastructure, to

minimise negative environmental impact. Accordingly, draft spatial development/ land use plan shall be equipped with financial prognosis.

A key issue in the changing of the land planning approach is the need for ensuring complementarity and conformity between local spatial development plans and plans on protection tasks for Natura 2000 areas. Ensuring that the local plans take into account the need for preserving the state of habitats (activities described in plans for Natura 2000) can be treated as a way of protecting also soils – for example appropriate protection of bog habitats prevent the degradation of organic soils.

The challenges are to make the planning documents complementary and coherent with each other and to increase the participatory approach in the approval of such documents, including all stakeholders managing the area involved.

The key drivers of change in **Romania** include:

- Increase in population
- Improvement of living conditions
- Ensure that the environment and landscape (natural and constructed) is protected
- Protect ecosystems
- Protection of architectural and cultural identity of urban and rural areas.

The key drivers of change in **Slovakia** include:

- Building of the national highway grid - collisions with protected areas
- Building/reconstruction/enlarging of sport and recreation resorts in protected areas
- Urban sprawl within the towns
- New industrial zones at most cities

For **Slovenia** numerous drivers of change to which land planning should respond exist including:

- Economic development in recent years – greenfield and brownfield investments;
- Natural disasters, especially floods - water risk management;
- Economic crisis: spatial and social inequalities are rising.;
- Deindustrialization (in 90ies), restructuring of the economy: formation of new degraded areas, in the future we expect the formation of new degraded areas ("unused" areas of business and commercial zones, urban degraded areas etc.);
- Demographic changes (Aging of the population etc.);
- Transport system development - Sustainable mobility: railway system modernization, public transport improvement.
- Land use change - Loss of agriculture land: building on agricultural land (soil sealing). Afforestation in some regions etc. Due the share of agriculture land self-sufficient food production is is threatened;
- transition to renewable energy resources:
- diversification of energy sources and building of energy links:
- Conservation and integration of Biodiversity, Cultural Heritage.

Due to the territorial diversity identified in **Spain** it is not possible to identify concrete drivers of change beyond general comments relating to urban growth and it's measured statistical evolution on national and regional inventories. (i.e. CORINE Land Cover project, SIU, or SIOSE project). Measures to control the urban evolution are collected in the 'Land Law' article 2.

Identified trends in **Switzerland** include:

- Accelerating demand for living space (due to population growth, smaller households, wealth increase etc.)
- Congested roads and high pressure on public transportation infrastructure (increase in the number of passengers, higher number of commuters - and over longer distances)
- Reducing the loss of (high quality) agricultural land
- Slowing down urban sprawl
- Encouraging planning in functional areas (urban, cross-border) (overcoming the current planning within fixed administrative units)

In **Turkey**, the rapid migration to cities, which began in the 1950s, resulted in illegal and uncontrolled construction. Of approximately 19 million units, 55% are unauthorised and illegal, 60% are over 20 years old and more than 6 million are evaluated as being a risky structure. There have been many earthquakes in the country. For disaster mitigation, the solution is to take the necessary measures before disasters.

Question 2b - In particular, is the planning system responding to the (current) economic crisis by paying no or less attention to environmental criteria?

Overview

Question 2b received nineteen responses. Individual country responses are included below.

None of the respondents expressed a view that the economic crisis has lessened the level of attention given to environmental criteria. However, as the response from Switzerland noted, the crisis has had varying impact across Europe meaning that a common view may be difficult to gauge. Similarly, the response from Belgium noted that the level of regard or protection could be dependable upon the location, form and viability of a specific project, together with the attitudes or practices of the project team. The Finnish response suggested that there needed to be improved understanding of what these environmental criteria would comprise given that some components could be overlooked (e.g. the wider role of ecosystem services).

Four of the respondents (Kosovo, Latvia, the Netherlands and Poland) referred to relevant European law, with the Netherlands statement explaining that it would be 'impossible' to pay no attention to environmental criteria given the requirements for Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA), and the stringent measures in place for protecting designated sites of importance (e.g. Special Areas of Conservation and Special Protection Areas under the Habitats (92/43/EEC) and Birds

(2009/147/EC) Directives, respectively). It was acknowledged, however, that the effectiveness of this policy was very much down to how the legislation was being implemented locally. For example, it was felt that some processes lacked objectivity where the assessors were the same people who had created the plan (as noted by Kosovo). Sometimes the assessments took place too late, while the Kosovo response also touched upon the debate about whether a specific project or plan should be subjected to EIA/SEA. The response from the Netherlands explained that the country had always sought to treat European standards as the minimum, with the government 'gold-plating' these to deliver a benchmark of best practice. However, a new Environment and Planning Act was being drafted to replace all national legislation and methods with a system based on the European directives. As a result, local government may be restricted in the future if they wished to impose higher standards.

Even though environmental protection remains important, it was noted that the economic crisis had led to further pressures to develop and initiate economic growth (Greece), encourage a slowdown in construction activity (Spain), and adversely affect business and investor confidence (Croatia). The Croatian response also referred to the challenges of providing infrastructure, while the Finnish response referred to the challenges of securing sufficient finance to facilitate the clean-up of contaminated land.

With regards to planning, the response from Turkey suggested that the slowdown in development activity had enabled the authorities to take greater control over the form of growth; a greater commitment was now being shown to the regeneration and development of sites within town and city centres, rather than those on the periphery.

The response from Estonia alluded to greater involvement from the private sector in plan-making. While their input was providing a valuable contribution in terms of capital and resources, it was acknowledged that their intentions would need to be appropriately managed to ensure wider public goals could be secured. Enhancing the capacity and resources of the planning service were also seen as being important.

Summaries of Country Responses

In **Albania,** the context of the economic crisis within the planning system has created gaps in the implementation of criteria for environmental protection.

The view from **Belgium (Flanders)** was that the respect towards environmental criteria depends on the incentives of the project manager (and possibly the budget available). Environmental criteria are perceived as being costly although this is not always the case. Moreover ecosystem services are not taken into account.

In **Bulgaria** the economic crisis is at the heart of the existing problems in the field of planning.

Sustainable development in the regions of Bulgaria is difficult due to the general tendency to reduce the country's population and the depopulation from less developed areas and migration to more attractive areas and cities such as Sofia.The economic crisis deepens and

strengthens the demographic problems and is affecting the territorial distribution of the population.

The picture of regional development is mostly determined by the development of large and medium-sized towns in Bulgaria. The highest share in the formation of the national gross value added and gross domestic product is taken by Sofia and the other six major cities (Plovdiv, Varna, Burgas, Stara Zagora, Rouse and Pleven). The network of large cities, which are key centres and engines of growth and development, promote unevenness across the country. This generates and accumulates a 'center-periphery' and determines the occurrence of inter-regional and intra-regional differences / inequalities[19].

The planning system in **Croatia** has suffered some damage due to the current economic crisis as a complex law that has developed over the past decade, which regulates or affects the use of land, hardly provides a long-term change and meaningful stepwise to build cities and other settlements. Because of the constant and increased conflicts between agricultural and urban land use is largely blocked normal business planning and complex urban construction.

In the current period, the general failure to draw additional value arising from a change in land use has affected the delivery of embedded infrastructure equipment of certain land in the cities, and there is a lack of resource to conduct long-term and systematic land policy. Instruments of tax policy can, by reducing transaction costs and visibility procedures in real estate, can ensure efficient functioning of the real estate market, especially land.

Environmental criteria remain important in **Estonia** but many problems are arising from the provision of the Planning Act, giving the right to finance and prepare detailed plans to interested parties. By using this provision municipalities are giving away part of their planning monopoly and investors sometimes get too strong in the planning process. It is sometimes dangerous for the harmonious development of towns in preconditions where democratic traditions are weak and public control by public participation is not functioning sufficiently. On the other hand, such a provision is inevitable in the situation where municipalities do not have enough finances and human capacity for elaboration of detailed plans. The only solution here is promotion of more professionally functioning municipalities. In order to reach this goal, the Ministry of the Interior is organising courses for local people and planners together with different training institutions.

The current economic crisis in **Finland** has not affected the way environmental criteria are taken into consideration during land use planning. Not at least in the way that less attention would be paid. It can be said that the need to be fully aware of e.g. soil quality is even more important. The importance of cleaning costs has become more important in the planning phase.

In **France**, The "Grenelle II" (or Act No. 2010-788 of 12 July 2010) sets out a national commitment to the environment. It supplements and supports the territorial implementation

[19] See The National Statistical Institute (NSI) (http://www.nsi.bg/indexen.php) and the Ministry of Regional Development and Public Works (MRDPW) (http://www.mrrb.government.bg).

of "Grenelle I" legislation (previously adopted in October 2008 and approved on 11 February 2009). These laws promote greater 'greenness', energy-efficient buildings and reduced energy poverty and seek to simplify and ensure consistency between the planning tools by grouping territorial cohesion schemes, local planning and communal plans together.

In the **FYROM** the Law on Environment stipulates the conditions for the protection of the environment in the process of planning. The State Environmental Inspectorate is responsible for the control and implementation of the Law.

The economic crisis in **Greece** is putting a lot of pressure on planning and the environment, since the latter is considered by several as an obstacle to development, though the Ministry of Environment, Energy and Climate Change (which is also responsible for planning) stresses on every occasion the sustainability approach.

Spatial plans in **Hungary** are long term plans (20 to25 years) with the aim to create stability, thus they do not directly reflect the current economic situation.

Nevertheless, there is room for flexibility in these plans.

E.g. the designation of special zones has a percental elbow-room which allows for taking into account the economic aspects and infrastucture development needs. During the revision of NSP, there have been some disputes around these specific regulations so the zones of arable land and forest area of excellent production capability may see a shift towards less strict criteria.

There is also a special, controlled legal process for inserting new elements into spatial plans between two revisions (5 or 10 years), if changes of national importance occur.

In many **Italian** areas severe soil degradation processes are occurring due to the inappropriate management of the territory. Sometimes this is leading to irreversible effects. These processes result from the growing demand arising from various economic sectors and from population growth, climate change impact and a change in use destination. The evolution of most important dynamics of land cover and land use on a national territory, between 1990 and 2006, highlights a progressive increase in artificial areas to the detriment of cropland and, after year 2000, of forestland and semi-natural environments. These processes, often, may be highlighted too late, when they are irreversible or at such an advanced worsening level that recovery is extremely difficult and economically inconvenient

There are measures to ensure environmental goals are properly safeguarded in the planning system of **Kosovo** but questions could be raised about their effectiveness. The legislation concerning Strategic Environmental Assessment obliges the Spatial Planning Law to ensure that SEA is undertaken for every plan (both national and local). However, the way in which this requirement is implemented is something really to discuss. The practice of making SEA for spatial/urban plans is in most of cases done formally. In almost all cases the subject (private company) who prepares the municipal/urban plan prepares the SEA for that plan at the end of the planning process rather than at the start. The national level spatial plan has not undertaken any SEA for any spatial planes, even though it is obliged to do so by the Spatial Planning Law and SEA law.

Environmental criteria are taken into account during the spatial planning process in **Latvia**. Environmental impact assessment takes place as much now as it did before the economic crisis. However, it is the local governments' competence that determines what functional zones they set in their administrative territories.

It is impossible to pay no attention to environmental criteria in the **Netherlands**. The European Union has very clear and extensive legislation on the environment that planners must follow (e.g. Natura2000, WFD, the SEA and EIA). However, since the crisis the Dutch government has decided that it will no longer go beyond the standards required by the EU and are eliminating all so-called gold plating from government policy. In addition, the Environment and Planning Act (Ow) being drafted is replacing all national environmental legislation and methods with a system which is based on the European directives. It remains to be seen whether or not local governments will still be allowed to impose higher standards than the European minimums under the new law.

It should be noted that in the process of drafting municipal planning documents in **Poland**, environment impact assessment is prepared. It determines and assesses the existing state of the environment, as well as the possibility to improve it.

Besides the legal effects of the plan (creating land ownership terms and conditions), the consequences for the environment and many aspects of social conditions (sociological, demographic and other), the "new" description of the conditions of land use established by local spatial development plan, usually has a direct impact on the change of the value of land property. The introduction of new provisions set out by the plan may also involve the obligation of certain expenses, such as the construction of technical infrastructure, to minimize negative environmental impact. Accordingly, draft spatial development/ land use plans shall be equipped with financial prognosis.

A key issue in the changing of the land planning approach is the need for ensuring complementarity and conformity between local spatial development plans and plans for the protection of Natura 2000 areas. Ensuring that the local plans take into account the need for preserving the state of habitats (activities described in plans for Natura 2000) can be treated as a way of protecting also soils – for example appropriate protection of bog habitats prevent the degradation of organic soils.

The challenges are to make the planning documents complementary and coherent with each other and to increase the participatory approach in the approval of such documents, including all stakeholders managing the area involved.

At the moment special attention is given to sustainable development in **Turkey**, supporting investments without affecting the built up area's quality and environment. In 2011 a new Emergency Government Ordinance (OUG 7/2011) came into force and amended the law of Spatial and Urban Planning (L. 350/2001). Its main purpose is to limit urban sprawl and land take.

Environmental criteria remain key elements within decision making in **Slovakia**.

For **Slovenia** in 2012 the National Assembly passed an amendment to the Spatial planning act which enabled the local municipalities to use a special and very short procedure, which enabled certain businesses to expand (on the existing location) to the neighbouring non-building (in most cases agricultural) land. This was made possible by circumvention of some environmental/agricultural requirements. This amendment was in force for about eight months, then it was put on hold by the Constitutional Court until the final deliberation on whether it is in accord with the Constitution.

Despite the amendment, the environmental criteria were taken into account in planning procedures. The local communities only got permission for expanding business locations if there were no protection regimes established on these locations (protection of nature, water resources, cultural heritage) or after a preliminary assessment that the expansion of building land does not have a negative impact on environment was carried out.

There were no other deviations in environmental procedures within other instruments of spatial planning.

Regardless to economic crisis the environmental procedures and all needed documents have the same standards. The same goes for the level and extend of mitigation measures.
Informal pressures on the environmental protection bodies are noted in order to lower their standards and criteria to increase their effectiveness and to allow implementation of plans not necessarily following the formal environmental criteria.

As regards the effects of the economic crisis in Slovenia: it is already reflected in lower pressures on space, as the interest in the purchase of land and new investments in the last 3 years have decreased substantially.

It should be noted that the financial and economic crisis in **Spain** has been closely linked to a crisis in construction activities and real property development which has come after a decade of strong urban expansion along which has urbanized (and artificialized) a large volume of soil; as can be seen from CORINE Land Cover project or SIOSE.

At present there is a strong State commitment for the promotion of rehabilitation, regeneration and urban renewal and the rent; compared to urban development policies that have characterized previous stages, which will undoubtedly have a positive impact on the preservation of environment and territory.

The planning system in **Switzerland** is generally (and still) paying attention to environmental criteria. The fact that Switzerland (so far) was not too heavily affected by the economic crisis certainly helps.

In **Turkey**, due to rapid urbanization and various economic changes, uncontrolled and illegal construction has taken place. Now, in Turkey, urban transformation is given priority in our cities. An urban transformation law was enacted that aims to make new buildings by demolishing risky structures vulnerable to disaster. By this law there have been regulations supporting implementations like granting loan and credit support for citizens' making this urban transformation themselves.

Through urban regeneration projects, cities will be shaped in line with the Spatial Strategy Plans and the upper scale planning decisions, protect and improve natural, cultural and historical values by urban regeneration projects and developing the 'brand city' with the high

quality of life by sustainable development, create cities with the highest aesthetic and visual value by urban design projects.

Due to the economic profits of the country, environmental criteria are taken into consideration very seriously. With urban transformation projects, healthy and secure building stock, service areas, etc. will be produced for all parts of the society, therefore these projects will upgrade the living standards, economic and social conditions of civil society in the long term.

Question 3 - How are environmental criteria incorporated into land use planning, and which criteria are most commonly included in the decision making? In particular, is soil quality taken into account?

Overview

A total of 18 of the responses that were received provided information on question 3.
The responses varied significantly in detail, but a degree of consistency in the responses can be seen in some respects. The use of Environmental Impact Assessments (EIA) and Strategic Environmental Assessments (SEA) are highlighted or suggested by a number of respondents and understandably (given the legal requirement across the EU to undertake such investigations), form the basis/framework of many of the country's decision making processes in respect of environmental considerations (Estonia, Finland, Greece, Latvia, the FYROM, the Netherlands, Poland). Soil quality is specifically highlighted as a consideration in this context by some, but it is also highlighted that these instruments have a broader remit than just soils.

In addition to highlighting the use of EIA and SEA, the responses indicate a general mix of law and policy (in development plans of some form) to require environmental matters to be considered. Soils are noted by a number of respondents as being specifically identified considerations in these frameworks, with the soil quality forming a decision making factor.

It is notable that in the case of Kosovo it is pointed out that whilst soils should be considered, it does not appear that this is the case to the extent that should be occurring by virtue of the relevant laws that restrict development. Albania also noted difficulties in the application of the restrictions that are provided.

In a number of cases consideration of environmental criteria, and specifically soils, is highlighted as being a matter to consider, but the idea of this being balanced against other factors is implied, and indeed is specifically stated in the response from France.

Importantly, the responses provided do not give information concerning the weight/value afforded to the environmental considerations, including soil quality, where such questions of balance are assessed through the planning decision making process. The actual extent to which soil quality impacts upon subsequent decisions is therefore not clear.

Summaries of Country Responses

In **Albania** it is generally the case that during common decision making criteria exists for soil protection but their practical application encounters difficulties.

Planning and management of "land use" are essential to protect the environment for **Bulgaria**. Climate change and global environmental problems increasingly require the integration of environmental aspects in the strategic planning process of the development of the regions and communities to ensure that adequate action is taken to meet the challenges in Bulgaria.

Environmental criteria are important in regional land use planning in the country. Specifically they consider:

- Environmental conditions that require resistance to the planned measures and results, integrating global environmental objectives in the planning process of regional development.
- Territorial conditions that require balance, harmonious development and opening up of the territory through integrated urban development and a strengthening of the "city-region" to overcome peripherality, territorial accessibility and connectivity. This is achieved using the potential of cross-border, inter-regional and transnational cooperation, the provision of spatial data and information, and more.

Soils and their rational use – an important function of soil is to filter groundwater and retain nutrients and the water needed for plant growth. It is the habitat for a variety of organisms (including degradable substances) to absorb and accumulate, and it reflects solar energy. The distribution and use of agricultural land in the country is linked to the quality and soil functions of different types of soils. Bulgaria is extremely rich with soil types in a small area.[20]

Environmental criteria are incorporated into the existing long-term development strategy of **Croatia** through the rational use and conservation of agricultural and forest land, the rational use of land for building, and the rational use of natural and manmade created values. Also the quality of the land is an essential criterion in determining the future use of the space, as it seeks to not repurpose the best land.
To this end, a number of planned activities exist:

- Updating records on land use and real estate
- Professional inventory and interpretation of existing and / or additional soil data to the updated regulations,
- Long-term programs of improvement and rational use of agricultural land,
- Long-term plan for the implementation of the land consolidation, where conditions are in accordance with the long-term development plan for agriculture
- Prevention of converting agricultural land into non-agricultural land, which is not necessarily consistent with the implementation of the Law on Agricultural Land
- Ban the construction of buildings in the first five prudential class arable land, in order to prevent the reduction of agricultural land,

[20] CORINE land cover data and The Soil maps

- Directing the construction of houses for the holidays and raising recreation facilities primarily on land that is not suitable for agricultural production, expansion of agricultural land to measure drainage, irrigation, etc.,
- Afforestation of agricultural land, which is not rationally be used for agricultural production (due to the high cost of reclamation project)
- Afforestation and source water protection zones and areas along the river, and;
- Afforestation of land for environmental protection and breeding environment in karst areas, especially in tourist areas and water protection areas.

The **Estonian** Environmental Strategy 2030 builds upon the principles of the "Sustainable Estonia 21" and serves as the basis for the preparation and revision of all sector-specific development plans within the sphere of the environment. The Strategy was approved by the Estonian Parliament (Riigikogu) in 2005 and it defines long-term development trends for maintaining a good status of the natural environment, while keeping in mind the links between the environment, economic and social spheres and overall impact on the natural environment and people.

The aim of the Strategic Environmental Impact Assessment (SEIA) which are used is to take environmental considerations into account when preparing and adopting strategic planning documents (development plans, land use planning). SEIA facilitates high level environmental protection and promotion of sustainable development.

When assessing the impact SEIA takes a broader view on the environment than just the natural environment, i.e. impact is assessed from the aspects of natural, social, economic and cultural environment.

In **Finland**, the legislation concerning land use planning and building defines the ways environmental criteria have to be taken into account. The basic point is that every site has to be suitable for the intended use and that the impacts of the plan must be known. During planning various general and specific criteria must be considered and the impacts of the plan have to be assessed. Impact assessment is a statutory procedure implemented in the statutory land use planning context, in which the environmental, urban, economic, social, cultural and other impacts of the implementation of the plans and alternatives is assessed and reported. Assessing the impacts is the charge of the same organisation that is in charge of drawing up the statutory land use plan, i.e. either the local authority or the regional council[21].

Soil quality is taken into account as a routine. The need to undertake soil investigations are always considered. Soil quality is usually taken into account for two purposes: 1. geotechnical quality (is it good building land or not) and 2.chemical quality (is there a reason to suspect soil contamination.)

In **France** Laws Grenelle 1 and 2 set environmental objectives to be introduced in the SCOT (Territorial Coherence Schemes), PLU (Local Urbanism Plan) and local maps, which must integrate issues of greenhouse emissions, energy efficiency, clean and safe energy

[21] http://commin.org/upload/Glossaries/National_Glossaries/COMMIN_Finnish_Glossary.pdf

production from renewable sources, quality of air, water and soil, restoration and protection of biodiversity, notably through the restoration of natural areas, forestry and ecological continuity with a "geographically balanced" distribution and space-efficient employment, housing, trade and services and rural and urban.

In the **FYROM,** the procedure for the adoption of plans includes an assessment of environmental risk, through the implementation of the SEA procedure (Strategic Environmental Assessment). This is the responsibility of the Ministry of Environment and Physical Planning and is conducted by licensed experts, based on the Law on Environment. The land quality (soil characteristics) is also the subject of elaboration in the SEA Report.

In **Greece** Strategic Environmental Assessment and Environmental Impact Assessment are major tools in the decision making process. Furthermore, in each call for a new urban or spatial planning study, there is a provision for environmental specialists in the study team. The main environmental factors taken into consideration in the planning process are: the existence of Natura areas, availability and use of water, waste management aspects and transport aspects.

Soil quality and appropriateness of grounds are elements to be taken into account in the context of urban studies for specific local urban plans, when geological studies are carried out.

According to the Act on Building (No. 78/1997) in **Hungary** the aim of urban planning is to develop an urban structure serving sustainable development, to achieve good quality of the environment and to facilitate prudent and environmental-friendly use of natural sources. Urban planning has to ensure that areas are used in line with public interest. In this context the following aspects have to be respected:

- aspects of environmental protection, natural conservation and landscape protection,
- coordinated interests of land use and landscape forming with special emphasis on water, air, soil, climate and wildlife protection,

- prudent management of land and soil

Primarily the zoning system of spatial plans helps to enforce the environmental criteria. These zones are defined in the National Spatial Plan and applied in county master plans. (See also Q1) The zones designated for special protection purposes include Zone of floodways and open floodplains, the Zone of High-quality Arable Land and Zone of High-quality Forest Areas . As for the Zone of National Ecological Network, Core areas and zones of ecological and green corridors (and puffer areas) are also distinguished. Rules for these zones restrict the designation of urban areas and prevent urban sprawl. The most common limitations are: limitation of land use, prohibition to set out areas for building, mining areas or windparks, limitation regarding building methods (bearing in mind the quality of water, the landscape, world heritage etc.).

The following general requirements have to be fulfilled:

- built-up area can be increased only if the wished type of built-up area could not be placed on the available built-up area.

- if a new building area is designated, the biological activity value in the administrative area of the settlement cannot be reduced,

- the building area of settlements has to be surrounded by a ring of non-built-up areas (especially forests and agricultural areas),

- before designating a new build-up area on former agricultural land, soil quality reclassification of the area should be considered in line with the Act on soil protection

- workmanlike and harmless drainage of flood, inland inundation and rainfall has to be ensured considering the conditions and possibilities of partial accumulation and keep in place

During the delimitation of the Zone of High-quality Arable Land and the Zone of High-quality Forest Areas soil characteristics were also considered.

The Zone of High-quality Arable Land consists of the country's highest quality and environmentally least sensitive arable lands of outstanding agropotential based on agroecological capabilities.

In the ratification process of urban planning a number of governmental bodies – including the two state offices responsible for soil quantity and quality – are involved. During the process of co-ordination of the goals of master plans, concepts of urban development, preparation or amendment of integrated urban development strategies the land administration authority, as reviewing and opinion-giving body, asserts the legal aspects of land protection, whereby areas earmarked for construction should be possibly located on productive lands of inferior quality and by taking the minimum possible area out of production.

In general, all plans and programs, which are likely to have significant environmental effects, require strategic environmental assessment (SEA), according to the 2001/42/EC Directive. The 2001/4/EC Directive is implemented by:

- Act LIII. of 1995. on the general rules of environmental protection;

- Governmental Decree No. 2/2005. (I.11.) on the environmental assessment of certain plans and programs (SEA Decree).

According to Appendix 4 of SEA Decree, the environmental evaluation shall contain – among others – a description of the environmental effects and consequences of the implementation of the plan or program on all environmental compartments, including soil.

We should note that, despite the above mentioned requirements and instruments, short term or partial interests may come into play, there is still room for improvement in terms of taking

full account of environmental aspects, including the multifunctionality of soils in land use planning which would help avoid any decision biases driven by short term interests.

In **Italy** urban expansion has become a matter of concern for regional and local planning and the derived changes in land use/cover were recently considered when developing strategies of sustainable development specifically designed to urban areas, but there is still a lack of a national legislation giving clear target on limiting land take and consumption. Moreover, the monitoring effort carried out by national and regional environmental agencies, through the integrated use of field survey and remote sensing, is giving the first and important results. Nevertheless, monitoring activity is highlighted as something to be empowered, because some parts of the Italian territory do not yet provide all of the environmental information needed to understand the whole, natural and human induced, phenomena.

The recovery of contaminated sites are regulated by Ministerial Decree 471/99, and then by Legislative Decree 152/06 (Part IV, Chapter V) with the related Corrective Decree 4/08. Legislative Decree 152/06 is also focused on mitigating hydrogeological risk, combating desertification, water resources management and protecting the soil from pollution. Regarding the contamination of water by nitrates, the law establishes the regional identification of Nitrate Vulnerable Zones (NVZ) as well as zones vulnerable to plant protection products. The quality of sewage sludge in agriculture, defined in Directive 86/278/CEE, has been implemented in Italy by Legislative Decree 99/92.

In Italy the cultivation of mines has been introduced by Royal Decree no. 1443 of 29/07/1927. The administrative functions relating to mines were transferred to the regions with Legislative Decree 112/98.

In recent years Legislative Decree 117/2008, implementing Directive 2006/21/EC (on the management of waste from extractive industries), establishes measures, procedures and necessary actions to prevent or reduce as much as possible, any eventual negative effects on the environment and risk to human health caused by the management of waste from extractive industries.

Quarrying activities are regulated by regional laws as established by the Decree of the President of the Republic no. 616 of 24/7/1977, which transferred these responsibilities to the regions.

In **Kosovo** there are some restrictions coming from Nature Law, Environmental law, Water, Agricultural land Law and its administrative instructs. First, natural protection zones are looked at, and then water protection sources and other environmental issues, and then soil. In Kosovo there is a land classification system based on 8 classes. Class 1-2 is restricted protected; 3-4 is protected but is some circumstances it is allowed to build on it. Many cities and villages in Kosovo lies in soil classes 1-4 and they do have a need for spatial expansion. In land use plans, which are a part of spatial/urban plans, significantly it seems that soil classes 1-4 are not taken into consideration as they should be and as the law on soil requires.

In **Latvia** the main document which sets the spatial use types for each land parcel is the local spatial plan. Each of the spatial use types allows several land use types, i.e.,

agricultural territory can be used for agriculture, for cattle-breeding, for building the specialized agricultural complexes, greenhouses, and non-residential buildings supporting agricultural production.

The Spatial Development Planning Law sets several principles that must be observed when elaborating spatial planning documents, some of them are:

- The sustainability principle – spatial development is planned in order to preserve and create an environment of good quality, balanced economic development, rational utilisation of natural, human and material resources, development of the natural and cultural heritage for the present and next generations;
- The principle of integrated approach – economic, cultural, social and environmental aspects are coordinated, interests of separate sectors are coordinated, spatial development priorities are coordinated at all planning levels, co-operation is purposeful, and the impact of the planned solutions on the surrounding territories and the environment is assessed;
- The principle of diversity – spatial development is planned, taking into account the diversity of natural, cultural environment, human and material resources and economic activity.

The local spatial plan includes a Strategic Environmental Impact Assessment procedure during which the potential impacts are considered. In general there are no strict regulations for exact environmental criteria that are used to evaluate the plan. However, most local governments have adopted local regulations that means building is allowed only in villages or in the territories with low soil fertility.

There are also the agricultural territories of national importance with the highest soil fertility. These territories are the object of national regulation. In these territories building is restricted, except for some infrastructure etc.

All kinds of environmental criteria are incorporated into land-use planning in the **Netherlands**: air quality, soil, water management, odour, biodiversity, noise, etc.

Previously those wishing to develop would have to obtain a large number of permits, but now can apply for an Omgevingsvergunning which checks all the various environmental aspects. In addition, an SEA or EIA is carried out for larger projects and plans. Soil quality is taken into account. As indicated above, this is subject to change with the adoption of the Ow, which eliminates all standards above the EU minimum.

In **Poland**, spatial planning and land development takes into account factors such as:

- Requirements of environmental protection, including water management and protection of agricultural land and forests as well as protected areas;
- Requirements of the protection of cultural heritage and cultural monuments and the objects of modern culture.

In the decision-making process certain criteria are taken into account, including those related to environmental factors. Environmental factors are used on the basis of eco-physiographic studies, legally established system of agreements, opinions of appropriate administrative

authorities managing various elements of the environment, and environmental impact assessments of spatial development acts and investments. The soil quality is the basis for taking decisions on the re-use of post-industrial land (and similar) that is to be included in the urban area and decisions on agricultural functions protection in the rural areas. Decisions on spatial planning and local development are those related to determining conditions of space, in particular: how land is developed and used.

In **Romania** for sensitive areas the elaboration and approval of urban planning documentations requires an environment approval. E.g. in all risk areas a detailed environment analysis is required. Environment criteria are part of the land use planning. The most used criteria that are commonly included in decision making are the functions of ecosystems in general, and the function of soils in particular. The soil quality is taken into account in relation with the purpose and the purpose is related to the soil quality. In order to change the function of land from agricultural, forest etc. to built-up area the analysis of the soil is required and it must meet some requirements.

In **Slovakia** every development plan contains a landscape ecological plan. Soil quality is also taken into account. This is served by part of the development plan which displays value of soils in the entire municipality and projects/highlights interventions proposed by the development plan.

For **Slovenia** Environmental Impact Assessment (EIA) is a part of the regular spatial planning procedure at general (strategic) and detailed level, soils are just one of the segments of the environment.

The same criteria are used in National and municipal Spatial Plan procedures. As mentioned, in both procedures, the environmental criteria are dealt with within EIA procedure and elaboration of environmental report. The criteria used are as follows:

- water - the impact of the planned regulation on the quality of surface and ground water, flood protection, the protection of drinking water, the concessions for the use of water,…;
- air - the impact of the planned regulation on the air quality and the human health;
- agricultural land - the impact of the planned regulation on agricultural land, the use of agricultural land, the pollution of agricultural land. Analysis are made according to land use, actual use, agricultural land quality *(soil number)*, impacts on complexes of agricultural land, melioration systems,…
- forests - the impact of the planned regulation on forests of special importance, to migration routes of wildlife animals,…
- nature - the impact of planned regulation on protected areas of nature (national and nature parks, Natura 2000, EPO, ...)
- cultural heritage - the impact of the planned regulation on areas and objects of cultural heritage, based on existing data bases and preliminary archaeological researches,…
- human health - the impact of the planned regulation on air and drinking water quality, noise protection,…
- other - the “light pollution” impact of the planned regulation.

The soil quality is usually taken into account in the context of agricultural land criteria in some cases are also examined as single criteria.

The protection of agriculture land (and soils) is one of the most important criteria when preparing and evaluating the land use plans.

In **Spain** urban planning is an interdisciplinary discipline and environmental issues are considered along with many other social or economic perspectives. In relation to environmental factors, one of the most important is soil preservation based upon environmental and landscape parameters, natural reserves, or maintaining of specific habitats, biotopes and species distribution. Areas can be classified for urban planning as 'suelo no urbanizable' (non-urbanizable areas) and are established on the basis of a strict regimen of identified compatible land uses with land quality soil conservation and environmental factors key in the decision making process.

In **Switzerland** environmental criteria are incorporated, especially when high value agricultural areas are affected. The Sectoral Plan FFF is highlighted in this context.
Environmental criteria is not an incorporated item into land use planning in **Turkey**, it is the plan itself. The Terriorial plan is an environmental development plan, and is known as such. Environmental data is used (Land & Agriculture, Forest, Flora, etc. data) during the preparation of these plans.

In addition, in the spatial strategy plans, environmental vulnerability and conservation areas are taken into consideration as a thematic area in the planning process. For instance, under the urban transformation process, a project for creating "Ecological Settlement Units" has been started. With this project, adaption to climate changes, reduction of carbon emissions, control of urban sprawl, construction of green buildings, etc. is planned.

Question 4 - In your national context is it possible to identify variations in land planning between different planning authorities (e.g., municipalities, regions in their respective contexts: urban, peri-urban or rural) in respect, for example, of application and enforcement of policy measures? If relevant, what explanations can you offer for such variations in land planning?

Overview

A total of 16 responses were received in response to question 4. The information varied significantly in scope and detail. A variety of different structures and approaches to governance and planning are identified. Differences in conceptual planning approaches are not identified, but there is clear variation in the roles, responsibilities and activities occurring at each level of governance, and the degree of flexibility that occurs at each level. A broad trend is for strategic guidance/direction/control, through policy, plans and legal controls, to exist at the national (and regional in some instances) level, with the primary mechanisms and tools for detailed land use planning and decision making existing at the local level. The degree of flexibility that can exist at the local level by virtue of the nature of the strategic structures varies significantly, from extensive flexibility to none at all in countries where a very rigid framework exists with national oversight of local activities.

In the case of **Greece**, variations at the local level are noted but it is indicated that these are undesirable and activity is underway to limit this. In Kosovo, it is highlighted that whilst

controls exist in the urban areas, rural areas are effectively not controlled and speculative development may take place.

The FYROM is of note due to there being no variation between municipalities. This is because of a requirement to respect bylaws, with plans overseen at the national level.

In the Netherlands deregulation and decentralisation has given scope to the provinces to develop different approaches to land use planning, with the municipalities within them also having scope to employ different approaches to growth. In Spain there appears to be significant variation between local authorities, as also appears to be the case in France.

In **Bulgaria** there is the suggestion of a hierarchy of governance, with tiers informing each other. This appears to be a general trend, though it is not always explicitly confirmed in the responses provided.

In most instances the information provided is too limited to allow for an accurate insight into either the precise nature of any variation suggested, or reasons/drivers for their existence.

Summaries of Country Responses

Albania did not provide a response to question 4.

Regional planning in **Bulgaria** applies the integrated approach, which requires the full commitment of all relevant public authorities - not only the departments of planning, which are part of the Ministry of Regional Development and Public Works (MRDPW) and Ministry of Environment and Water, but special participation and assistance of management units - municipalities and districts meeting land management.

Strategic planning of regional and local development comprises a system of statutory documents with the aim of achieving sustainable and inclusive growth. The MRDPW provides methodological guidance for the development of strategic planning documents for local and regional development and organizes the development of the National Strategy for Regional Development and regional development plans. The process of development and implementation of these documents is based on cooperation between governments of regional development, economic, social partners and civil society.

In Bulgaria there are 264 municipalities and 28 districts. Due to the size of the "Sofia municipality" it has the status of district.

There is not yet a well-developed specific regional approach that takes into account the unused resources locally[22]

[22] "Methodological guidelines of Works to develop" – includes:

- National Strategy for Regional Development of the Republic of Bulgaria (2012-2022);
- Regional development plans for the areas of level 2 (2014-2020);
- Regional Development Strategies (2014 to 2020);
- Municipal Development Plans (2014-2020).

In **Croatia** the levels of spatial planning related to the state, county and local level have similar goals, but specific areas require specific measures. Thus, at the national level the current Strategy and Programme of Physical Planning directs sized space guidelines for the future development of settlements through a commitment to a rational use of space for the construction and consolidation of settlements with increasing density and primarily the reconstruction and renovation of existing parts of the settlements. It is recommended that settlement expansion is carried out carefully and that it must be accompanied by simultaneous landscaping. The guidelines determine the acceptable consumption of land with a standard of 300 m2/capita of the total area of the village (gross).

Areas of the city covered by their spatial and urban plans are very large compared to the existing built urban structure (several times over), and non-urban functions (economic forest and agricultural land) within such established procedures comprise more than 25% and over 50 % of the area which has resulted in a relatively low-density housing planned.

The application of a single criterion for gross housing density also gives disproportionate results when uncritically applied to the settlement of various orders of magnitude - gross density of housing in rural, suburban and urban area of high quality is a completely different category, although it may be a settlement in the same administrative whole. Another problem is the large number (over 6750) statistical towns, of which there are only 800-1000 elementary generators with complex construction, for which it was necessary to determine the optimal construction areas.

In **Estonia** the legal framework of PA makes it possible for the preparation of plans to take fully into account the relevant characteristics of land uses (urban, peri-urban or rural, density of settlement, other relevant needs and objectives).

In **Finland** the Laws and Orders are same for all and local conditions can be taken into account within the limits of them.

In **France**, each competent authority is responsible for its SCOT, each city or EPCI competent authority for its PLU and each municipality responsible for the communal card are free to define their planning document. This leads to significant changes both in substance (expressed in PADDT) and form (as well as the régelement Patches). SCOT, and to a lesser extent the PLU and communal cards, are the expression of a political vision for the future of the territory.

The variation between SCOT is explained by the fact that each SCOT is subject to during its development or revision, laws and projects of general interest (PIG) as defined in the State as well as all the requirements provided by the State or local authorities; land management guidelines (DTA); regional development plans (SAR equivalents of DTA in the overseas departments); development plans and guidelines for water management (SDAGEs).

Guidelines for the protection and enhancement of the landscape; requirements for management of national parks and their surrounding areas; charters of regional parks; and patterns of development of the mountains and the coast are also taken into consideration by the equipment state programs, local authorities, public institutions and land border territories.

Regarding the PLU and communal cards, the legislative intent is to clarify the zoning and building regulations. However, it is sometimes criticized because it allows municipalities to introduce between graphic and textual rules ambiguities in regulations - or even contradictions - that allow them to assign permission issue. Similarly, the sub-divisions of the zoning are often what gives many important variations PLU to another. But the main variability in PLU lies in the misunderstanding that causes the document. Indeed, its main innovation in the realization of PADD is the project of supporting all common documents. The logic is therefore that the town develops its project first and then implements it through the settlement. However, some municipalities wishing to have a PLU are small or very small towns with limited urban project. Thus it is not uncommon that in practice the logic is reversed: the regulation is primarily developed through zoning and it is then wrapped in a project. Indeed, these small towns are mostly composed of more landowners concerned about the future of their land as a communal project of general interest.

In **Greece** variations do exist, in particular at the local level, mostly for reasons of different legal provisions under different legal texts as well as Court decisions. The revision of the planning system, mentioned above, aims at clarifying also such discrepancies.

For **Hungary** spatial plans have a framework nature, there are no major differences.(See also Q7)

Urban plans in the **FYROM** are prepared by licensed experts according to the standards stipulated in the bylaw acts. Before their adoption, the plans are subjected to approval by the Ministry for Transport and Communications as the institution responsible for urbanism. In that context, it is clear that variations in land planning between different authorities is not possible, because respecting the law and bylaw documents, as well as the control of their application and inspection of their implementation, reduces the variations to a minimum. Nevertheless, informal building is present in the FYROM as well, although the State makes efforts to cope with this problem with the adoption of The Law on the Treatment of the Informal Buildings and its implementation and the penalties for breaking the law.

In **Kosova** the local level is response for the planning and managing of land use in their territory. Among the local levels (municipalities) there are no differences. In the spatial context the focus is concentrated upon the urban zones (almost every municipalities has one city which is consider as urban area), while the rural parts are almost without controls. For example, within the urban zones (only the capital of municipalities is considered to be such) there is the implementation of construction law, meaning that to build a house or whatever else you have to apply for building permission, while in rural parts you can build almost whatever you want no one requires building permission, because it is not controlled by municipal authorities.

Land planning in **Latvia** to the land parcel level of detail only occurs at the local level. There are two kinds of local administrative territories: districts (in rural areas) and cities of national importance. There is no difference in planning procedure for those two kinds of local governments. However, the plans of cities are usually more complex and often include more public participation activities and scientific researches. This can be explained by the available financial resources and also by the qualification of specialists elaborating the plans.

In the **Netherlands**, as in any multi-level governance situation, there will inevitably be variations between approaches taken by different authorities. As regards spatial planning, at the national level, there has been a clear tendency towards deregulation and/or decentralization over the past ten years. The next level down, the twelve provinces, shows a mixed picture on various dimensions.

Divergent administrative cultures dictate to a large extent the approach to provincial planning. Very generally, Limburg is oriented towards exerting its influence via negotiation with municipalities and maintaining good relations. Groningen is more formal in its approach, preferring to codify its interests in clear, legally binding rules in its verordening (such as a ban on new business parks and billboards taller than 6m). Brabant, Overijssel and Drenthe also impose rules on local plans which are more ambiguous, such as the requirement to enhance 'spatial quality'. It is difficult to say with certainty which provinces are more permissive of development, but Groningen, Noord-Brabant and Overijssel regulate the largest number of topics, while Gelderland and Utrecht have particularly detailed regulations. Flevoland has drawn up a verordening to protect just a single strip of land as nature, preferring to regulate other land use via negotiation and (non-binding) instructions for local plans.

The provinces also differ as regards the kinds of planning instruments used. Most have adopted a verordening (only Limburg and Flevoland do not have a comprehensive verordening), but the kinds of rules and the method differs per verordening (as described above). Noord-Brabant has issued by far the most reactive aanwijzingen of all provinces. Overijssel has the largest share of zienswijzen (remarks) leading to a reactive aanwijzing. Noord-Holland have been most active in creating inpassingsplannen for all the provinces, and these have also been the most ambitious in terms of land development.

Finally, there is also a wide difference between municipalities. Most municipalities, however, are growth-oriented as the Dutch system of land development allows municipalities to profit directly. This institutional incentive has produced intense intermunicipal competition for development, leading to a well-documented situation of oversupply of particularly office and industrial space. Some municipalities are less development-oriented (sometimes because most of their territory has been legally designated as rural or nature by higher authorities), and it is possible to see large border differences (with land uses stopping abruptly at the municipal border). All municipalities are required to engage in strategic planning by drawing up a structuurvisie, but it is mainly the large cities that have a strong tradition in this regard, particularly Amsterdam whose strategy resembles the Copenhagen finger-city model.

Planning in **Poland** occurs at three different levels:

1. National planning – the following bodies are competent to develop planning documents at this level:

   - Minister of Regional Development (National Spatial Development Concept),
   - Other ministers have charge of functional elements of Poland's development and competent to develop respective planning documents, including the Minister of

Economy and Minister of State Treasury in charge of planning management and protection of strategic mineral resources

2. Regional planning – local governments of voivodeships are competent to elaborate planning documents at the voivodeship level (voivodeship spatial development plans),
3. Local planning – local spatial development studies and plans prepared based on municipal studies of spatial development conditions and directions, determine directions to be taken in spatial structures and land use changes by gminas; relevant local government bodies are competent to develop plans at this level.

Differences in planning policy within each responsible authority in this area are included in within the provisions of law, including Spatial Planning and Land Development Act of 27 March 2003.

Municipal authorities (whether they are rural communities, urban or urban - rural, city or on county rights) make decisions on spatial planning and local development at the municipal level within its limits. Communities in these areas are equipped with so-called "planning power" (planning independence). Similarly, the authorities responsible for spatial planning and local development on the other levels (regional and national) decide within their jurisdiction.

In the planning process space containing urban and rural areas is treated as a cohesive whole and the division into urban is rural areas is a secondary thing connected with statistics and functions. It means that the planning acts are not diversified by the legislation – the same self-government authority is responsible for preparing the spatial development plan of a village (settlement unit or non-urban area with different, often conflictual functions), a city and a peri-urban area within its management area. The peri-urban areas that are urbanizing intensively, connected with the cities of above-regional importance, are often managed by self-governing authorities different than the authorities managing the city. Housing needs are causing suburbanization using areas around big cities.

The possibility of covering a functional area consisting of different units with the same competences is missing in the system – the responsibility for spatial development of urban and rural areas is divided only at the central level and is connected with non-planning instruments and political decisions. Some of the instruments are implemented with special legal acts, some concern the system of coordination and implementation. It is worth noting that the cohesive system of spatial planning is based on the two separate knowledge disciplines: urban planning and rural planning.

In **Romania** the land planning rules are the same for each level of land planning. The activities and the working packages are different however from one level to another and also from a region to another due to the different conditions of the land and different approaches for different levels. Competencies in urban planning are under the head of the local public administration, and because only special urban planning documentations (for protected areas etc.) need the approval of the central public administration according to the local public autonomy, the local public authorities have different approaches depending on territories characteristics.

In **Slovakia** all planning authorities must comply with the national building and planning act. However individual differences might be noticed.

For **Slovenia** there are some differences in procedure and content between National Spatial Plans and Municipal Spatial Plans. The later deal with whole municipal territories (whole towns, villages and open landscape), while the National Spatial Plan deal with only one (or sometimes more) investments/projects/buildings that are of national importance (such as gas lines, power lines, railroads).

As was already mentioned on regional level there isn't any spatial planning. Only informal plans are prepared to address common development issues of municipalities, e.g. planning sustainable mobility on regional level.

The approaches are different but there are some ideas that they approaches should become more unified. A common perception is that the procedure for adoption of National Spatial Plans is better, especially when it comes to public participation. Therefore it should be applied to the municipal level.

According to proposed changes in the system of spatial planning system in Slovenia regional level will increase its role in the field of spatial planning and land use planning, but details (the content, responsibilities, territorial and institutional framework) are not known yet.

In the **Spanish** context there are three administration levels (National, Regional, Municipality; and even supra-municipality actions) with more than 8100 municipalities with wide land planning competences. There are very different ways to define an urban plan and set up strategies for urban growth and urban transformation. Many of these differences come from own territorial and economical context where the municipalities are located. In Spain it is possible to identify remarkable differences between coast municipalities and other areas. Coastal settlements have been developed in the last years, strongly marked by tourist demands (areas for temporally residence, commerce and leisure, etc.).

At the national level in **Switzerland** there is an overarching National Strategy (Swiss Spatial Development Strategy), Concepts (e.g. landscapes) and Plans (e.g. Transportation, Energy)[23]. At the Cantonal level there is the Richtplanung (spatial development concept and plan), and at the Community level Nutzungsplanung (zoning) and Baubewilligungsverfahren (construction permits).

In **Turkey**, municipalities are responsible for the areas in the municipality borders, whereas Special Provincial Administrations are responsible for the areas between municipality borders and province borders. In Metropolitan Municipalities, municipality is responsible for the whole area in the province borders.

Question 5 - Is land use and land planning based on spatially explicit data and geographical information analysis (GIA) methods? Please identify in which areas of policy making/implementation such data are used.

Overview

[23] http://www.are.admin.ch/sachplan/index.html?lang=de

18 respondents completed the response to question 5. Of these, 14 noted that their countries used spatially explicit data and geographical information analysis methods in preparing land use plans. Respondents were not always clear at what level the GIS/GIA methods were used; however it appeared that nine undertake the work at a national level and 13 use the data more locally, albeit in a less consistent manner. The responses from France, Kosovo, Romania and Spain indicated that there was considerable inconsistency in use at local levels within their countries. This possibly seems to be primarily due to there being no national requirement to use a particular system with the choice therefore being left to the municipality/region to decide.

The policy areas and implementation factors for which countries use GIS/GIA methods varied in the responses; it should be noted that the examples provided are based on the responses provided to the questionnaire and should not be seen as exclusive of similar approaches in other countries that were not explicitly stated. For example Croatia, Poland and the Netherlands used it for the identification, protection and preservation of natural, historical and cultural features and assessing demographic trends. Albania uses aerial photography for creating a forest inventory. Estonia uses geo-informatics (management of spatial data, provision of spatial data services and coordination of geo-information related activities) to capture and manage geodetic, geological and topographic data (organising the establishment of geodetic networks, organising geological mapping, mapping of the Estonian territory, providing national topographic data and maps to the society). Other countries such as Greece, Italy, Poland and Spain use the approach for public interface activities such as document display and consultation exercises.

Two of the respondents (Bulgaria and Switzerland) provided a response in the form of weblinks to their respective country's governmental websites. Consequently, the response would need to be constructed/completed by the researcher based on an interrogation of a wider source. The information could therefore not be derived from the interviewee and obtaining such information is beyond the time resources available for the project. These two countries' responses have therefore been included at the end of the analysis to provide reference to the websites.

Summaries of Country Responses

In **Albania** the Geographic Information System (GIS) used for planning in the National Forest Inventory in 2003. Arial photography is used at the municipal level in the legalization of democratic movements and their territories.

In **Croatia** there has been intensive work undertaken over the past three decades to establish GIS systems and unifying statistical, spatial, social, economic, and other data for the purposes of regional planning. There is an established information system for the State Physical Planning (ISPU). Extensive research has been conducted in order to create a professional and scientific basis for monitoring the situation, optimum utilization of space in terms of sustainable development and the realization of complex economic and infrastructure systems of importance to the State.

Another group of studies in Croatia includes: the protection and preservation of natural, historical and cultural features and values of the area; biological and landscape diversity with

a view to a comprehensive analysis of the values, monitoring, usage patterns and potential threats and pollution as well as the significance of each nature protection area. This was followed by research related to capital infrastructure and buildings of importance to the state and county with the aims of: monitoring the dynamics of construction; more balanced connectivity areas; and study of alternative routes.

Specific studies in Croatia are related to demographic trends in order to monitor trends and looking at possible imbalances so that measures can be proposed for the construction zone. The objectives are monitoring the manner of use and proposing possible changes in terms of a rational sizing and use, with the aim of monitoring, phenomena and processes in the research frontier, mountainous and disadvantaged areas. The Croatian respondent considered that the process of adjustment of the zoning standards and practices of the EU requires systematic monitoring and research space and the process that should result in corresponding indicators comparable to those of other countries.

The Croatian respondent also believed that most countries have defined thematic areas for research, such as drinking water sources and water protection areas with the aim of: monitoring the quality; state protection against the potential threat of pollution; tracking changes to floodplains and protection in the event of a potential threat to people, property and the environment. The system is also used for exploitation of mineral resources (including underground existing, abandoned the planned exploitation) to exercise and rehabilitation and timely intervention to protect the area.

In **Estonia** land use and land planning is based on spatially explicit data and geographical information analysis methods. The Estonian Land Board is a government agency that participates actively in the development and implementation of national land policy and provides the society with up-to-date land-related information. Main field of public services are geoinformatics (management of spatial data, provision of spatial data services and coordination of geoinformation related activities), capture and management of geodetic, geological and topographic data (organising the establishment of geodetic networks, organising geological mapping, mapping of the Estonian territory, providing national topographic data and maps to the society)

In **France** land use planning makes extensive use of geographic information. However, as the objective of planning processes is to produce a binding paper document to third parties, the use of geomatics and GIS is not widespread. Some consultants will stick to the use of tools desktop publishing. Regarding the SCOT, geographic information is necessary in the three mandatory documents input. However, the law does not require mapping to associate the final document. Map becomes illustrative only and cartographic expression is variable. Under the PLU, geographic information is necessary, even essential especially for presentation of reports that consist of several elements: a territorial diagnosis; an initial state of the environment in general an inventory of natural habitats, especially those considered the most valuable; quality of water, air and soil, fauna / flora component; ecological balance and to preserve continuity. The graphic element of the document divides the territory of the commune in several areas, such as zoning plan also defines specific areas, such as wooded areas classified or reserved places (especially for the future construction of public facilities). This mainly defines four major types of areas: urban areas, called "zones U"; urbanized

areas, called "zones AU"; agricultural areas, known as "Area A"; natural and forest areas, called "zones N".

Spatial data is used in **Finland** for preparing land use plans at all planning levels as well as in impact assessment.

In the **FYROM,** the procedure for adoption of plans is based on legal regulations which explicitly stipulate the kind of data that should be used in the preparation, the layouts and the contents of the plans for organization and use of the land. According to the law, institutions responsible for preparing plans are obliged to use GIS data in the process, which is held on a database by the governmental institution the Agency for Real Estate Cadastre.

In **Greece** plans prepared during the last few years have taken into consideration spatial data and methods. Furthermore, a project on electronic urban planning is on its way, to facilitate the work of central and local authorities, for planners and for citizens.

For **Hungary** land use planning and spatial planning are based on spatially explicit data, provided by ministries responsible for sectors (sectoral zones). Spatial databases are essential for the delimitation of the different zones and land use categories, as well as in the assessment of territorial processes.

Data are collected digitally and appear in GIS database. All maps are elaborated on 1:50 000 scale topography maps in GIS system with vectoral files. Geographical information analysis methods are used.

To our best knowledge in the ratification process of urban planning the following policies provide spatially explicit data:

- nature conservation: nature conservation areas, national ecological network, Natura 2000 network,
- environmental protection: water quality, zones of sensitive surface water and groundwater,
- water management: first bottom, high-water mark, areas regularly covered by inland inundation,
- forestry: database of national forest material.

Recent changes in the **Italian** legislative framework have implemented an administrative devolution process, called the “regionalisation process”, transferring functions and responsibilities from the State to the Regions. In this context, spatial planning is still characterised by fragmentation among the national, regional and local levels, especially referring to the juridical extension field of the plan and the wide-area affected by the plan. Many geographic information systems have been developed at regional and local level, to support planning but the fragmentation and low coordination between these new planning instruments is a relevant problem to solve.

Following the innovations introduced by Urbanistic Regional Law no.11/2004 the Veneto Region of Italy has also defined, through specific guidelines, the structure and content of the data necessary to form the design documents and the interdisciplinary

datasets to support the preparation of the city planning, now divided into a Urban Structure Plan (PAT: “Piano di Assetto del Territorio”) and an Operational Plan (PI: “Piano degli Interventi”). These regional guide specifications are strongly oriented towards the implementation of geographic information systems (GIS) finalized to the land planning and management.

Land planning in **Kosovo** is not regulated by spatial planning law or by its AU. GIS and geographical data are used to produce spatial plans at the national level, while this is only partially used at the local level: some municipalities use GIS very well whereas others do not use it at all to prepare their municipal or urban development plans.

Local spatial plans in **Latvia** are based on topographic plans that are not older than 5 years. The Rural Support Service provides information about the use or abandonment of agricultural land, which is taken into consideration by the local governments. It is up to local governments to decide whether to use the GIA methods, but most of the cities of national importance do. Usually the local governments also use the orthophotos, although they are not always very accurate due to time delay.

There is a wide variety of spatial data available for land use planning in the **Netherlands**. This is used at all levels of planning and for all planning purposes. Existing land uses are also available at a high level of detail, and commercial data regarding individual property (homes, shops and businesses) is also available. All kinds of data on spatial restrictions to development are readily available online, such as the location of Natura2000 areas, safety contours around industrial sites with hazardous materials, floodplains, etc. For strategic planning, for example, demographic prognosis data is available at the municipal level. All local plans in force (bestemmingsplan) are provided online (www.ruimtelijkeplannen.nl), as well as all the rules for plans at provincial and national level and the various vision documents (structuurvisies). This allows prospective developers to see what kinds of rules apply to a particular area.

Spatial planning and local development in **Poland** uses a variety of geographic data and geo-information (databases), as well as spatial analysis, carried out in the process of spatial management. The usage may differ depending on the level of the planning process – the most advanced are institutions managing strategic national investments and regional development as well as urban workshops connected with big cities and research establishments. GIS methods are used inter alia for transport, investments for flood protection, managing coastal areas, preparing environmental studies. In case of space (land use) management – it depends on the self-government potential.

For spatial planning in Poland the reference data of National Geodetic and Cartographic Resource are used. The basic data and information are maps on which planning documents are drafted at the municipal level. The draft study is prepared on a topographical map, issued by the state geodesic and cartographic service, or on a military topographic map. The local plan of spatial development (land use) must be made on the official copy of the basic map, or in the absence of this map, on cadastral maps, collected in the state geodesic and cartographic service. In drawing up the document necessary data is used in terms of: environment; wildlife; landscape; monuments; cemeteries; protection of agricultural land and forestry; protection of water, soil, etc. The data are used to control urban decisions (for

example planning permissions, decisions on development conditions and land management, environmental decisions), including its coverage, and in the public consultation processes.

The potential for developing GIS in Poland is given by the GMES services, Urban Atlas, land information services on soil sealing as well as by the INSPIRE which contributed to the more effective way of spatial planning. The Act of 4 March 2010 on spatial information infrastructure describes the data sets and its dissemination contributing to the more common use of analytical tools. The geo-portal for the infrastructure of spatial information is a central point of access to services, such as searching, browsing, downloading, conversion and includes services enabling launching of further services, with full range of thematic and territorial infrastructure.

Land planning in **Romania** is based on spatial images and GIS. Spatial data and Geographical Information Analysis (GIA) methods are used for both policy making and also policy implementation activities. Urban planning documents are based on a cartographic support, but the preparation/delivery of documents is based on different software because there is no requirement for a standard method of analysis.

The majority of land and urban planners in **Slovakia** do not work with spatially explicit data and geographical information analysis methods because to date these data have been hard to obtain.

For **Slovenia** the following data bases are used in national and municipality spatial plans procedures:

- ortho photo maps,
- cadastre of buildings, cadastre of public infrastructures, land cadastre,
- actual land use (agricultural land),
- planned land use,
- data on agricultural land quality,
- data on hydromelioration,
- data on protection forests and on forests of special interests,
- data on areas endangered by floods,
- data on concessions for the use of water,
- data on protected areas of water sources,
- data on areas of nature protection,
- data on protected acres of cultural heritage (register of cultural heritage), based on preliminary archeological researches,
- Data on national and municipal detailed spatial plans (adopted).

Most of above stated data bases are used in early spatial planning phases (analysis).
We should also mentioned, that spatial data needed to prepare spatial plans are dispersed between different institutions responsible for individual part for management of the territory.
The use of GIS analytical methods is a standard.

GIS is one of the basic tools in the development of zoning and territorial plans in **Spain**. Such systems are routinely used: for drafting of urbanization instruments; in the phases of

analysis and justification of the proposal; and in the presentation of the planning documents. However, in some regions different systematization standards are set by those drafting the plans and by the different public authorities' users.

In **Turkey** throughout all stages of the planning process GIS analysis are used, for example spatial analyzes and network analyses are used in spatial strategy plans. Additionally, work continues towards obtaining an inventory of national spatial data.

With regards **Bulgaria**, land use and land planning based on spatially explicit data and geographical information analysis methods is used in the field of Cadastre and Regional Registration. In the field of spatial planning and urban development the Ministry of Regional Development and Public Works[24] and the Agency for Geodesy, Cartography and Cadastre[25] In the field of agriculture the Ministry of Agriculture and Food Republic of Bulgaria[26]. In the field of the environment the Executive Environment Agency[27] (ExEA) and the Ministry of Environment and Water[28].

In **Switzerland** there is a hierarchy regarding the geographical data modeling "Sachpläne"[29] and "Nutzungsplanung"[30]

No response was provided by **Belgium (Flanders)** or **Germany** to question 5.

Question 6 - Could you identify and elaborate on what you consider as good practice examples of land planning systems, in particular with respect to controlling urban sprawl and land take, in your country? Please document your example with institutional context, etc.

Overview

16 respondents completed the response to question 6. Of these, 14 provided examples of good practice regarding land planning systems in their country in respect of controlling urban sprawl and land take. Examples included: Territorial Coherence Schemes (SCOT) in France to underpin regional balance, urban renewal, efficient land management, social diversity and the preservation of the environment; the use of aerial photography in Greece to identify

[24] The Ministry of Regional Development and Public Works - http://www.mrrb.government.bg/en/ and GIS - http://gis.mrrb.government.bg/MRRB/

[25] The Agency for Geodesy, Cartography and Cadastre - http://www.cadastre.bg/en; http://www.icadastre.bg/index.aspx?ReturnUrl=%2f

[26] Ministry of agriculture and food Republic of Bulgaria http://www.mzh.government.bg/mzh/en/Home.aspx

[27] Executive environment agency (ExEA) - http://eea.government.bg/en

[28] Ministry of Environment and Water - http://www.moew.government.bg/?&lang=en

[29] http://www.are.admin.ch/dienstleistungen/00904/04205/04585/index.html?lang=de

[30] http://www.are.admin.ch/dienstleistungen/00904/04205/04207/index.html?lang=de

urban sprawl (this method is used in Albania to create a national forest inventory [see question 5]); the use of a development plan approach in Italy and the FYROM - this approach is also used in England locally through a land use designation in a plan called 'green belt', in Finland and Italy through a two-tier plan approach, in the Netherlands through specific 'buffer zones', and in Turkey and Spain control of urban sprawl is undertaken at the national level.

Question 7 - What are the policies and procedures for addressing soil evaluation as part of land planning? Is the soil evaluation mandatory or voluntary? Please identify the level of governance (national, regional, local), as well as key institutions and stakeholders involved.

Overview

With the exclusion of Estonia, all countries completed this question. In some cases the answers are general or vague without analyzing the theme of "soil evaluation" (Turkey, Greece, and Finland). In many cases the policies are strongly linked to soil contamination problems (Netherlands, Belgium (Flanders)). Some respondents (Romania, Bulgaria, Slovakia, the FYROM, Turkey and Italy) try to explain who in their country has competence on soil. In three countries (Kosovo, Slovakia and France) the procedures seem to be linked to environmental impact assessment (evaluation linked to land planning rather than addressing the real impact on the "soil ecosystem"), while in Hungary, soil properties are extensively used and may have a strong influence on land planning.

Summaries of Country Responses

In **Bulgaria**, government policy on conservation, sustainable use and restoration of soil at the national level is carried out by different Ministries. Protection policy and sustainable use and restoration of soil takes place at both the regional level and locally at the municipal level.

Croatia and **Latvia** highlight the problem of obsolete soil data. Moreover in Croatia there are no policies and procedures for addressing soil evaluation as part of land planning; the soil evaluation is voluntary and depends on the priorities of the local and regional governance.

In **Finland,** geotechnical properties, adequate handling of drainage water, and good chemical quality are considered when preparing land use plans at different levels.

In **France,** some articles of the "Code de l'urbanisme" oblige specific studies on soils, define the initial state of the area and detailed analysis that must be carried out before any infrastructure work (positive and negative effects, direct and indirect effects, temporary - including the construction phase and permanent effects, and effects in the short, medium and long term).

In **Germany,** the Federal Soil Protection Act (in addition to other legal regulations for agricultural purposes), as well as the Federal Spatial Planning Act aim at protecting and restoring soil functions.

In **Greece,** several national institutions have prepared maps of soil characteristics to be used for different purposes (i.e. to combat desertification, for agriculture, for planning, etc.). Geological (not pedological) studies are mandatory in the context of the local urban studies/plans.

In the **FYROM**, the evaluation of the soil is mandatory at the national level of governance. In land planning, the quality of the land is a factor always taken into account. Before plans are adopted and if they involve the loss of agricultural land, the institution responsible for adoption of the Planning Program is obliged to seek permission from the Ministry of Agriculture, Forestry and Water Economy. This is the procedure for transformation of agricultural land in land for construction, in accordance with the Law on Agricultural Land. The payment of financial compensation for land use change (from agricultural to urban areas) is required.

In a few cases (**FYROM** and **Poland**) soil evaluation (especially for agricultural land) is based on different suitability classes. In Poland soil classification of land is mandatory; it covers all agricultural and forest land in the country.

In **Hungary,** classification of land parcels registered as productive (agricultural and forest) land is compulsory. Classification of land is an independent official process performed by the local land administration authority. This classification is a process separate from land planning. Any change in agricultural land use must be reported by the farmer.
During the coordination process of the goals of master plans, mayor of the settlement acts as coordinator involving the stakeholders, including the land administration authority that may give advices on land protection.
Soil properties were also considered during the delineation of the Zone of Forestation, through the so called 'ecotype' method, which includes 3 partial assessments (environmental sensitivity, suitability for forestation, agricultural suitability). It provides a knowledge base for spatial planning experts on essential land use changes (and information of the location of area for forestation).

In **Kosovo,** Construction Planning Zones (CPZs), a policy framework approved by the Ministry of Agriculture, Forestry and Rural Development, defines the protection and also the direction in which the cities can develop.

Latvia has a national regulation on agricultural land of national importance with the highest soil fertility. However, agricultural land was last evaluated in the late 1970s and the data has not been updated since. In areas characterised by highest soil fertility, several activities are restricted, mainly building.

The Netherlands is the only country that relates regulations/recommendations on soil evaluation to soil function preservation. These regard different aspects:

- Regulations or recommendations for ploughing in hilly areas to prevent erosion
- Regulations or recommendations for the use of heavy machinery on land to prevent soil compaction
- Soil fertility testing, regarding soil composition (N, P, level of plant protection chemicals and presence of nematodes etc.) in agricultural institutes at the request of farmers, etc.

- Soil structure, soil carrying capacity, penetration resistances etc. (connected to building activities). These can be found in handbooks on soil mechanics.

Moreover, some obligations relate to possible soil contamination; in particular, when the initiator of soil works and building activities has the obligation to obtain a 'clean soil statement' from the 'local authorities on soil contamination' (provinces and larger municipalities). This 'clean soil statement' is based on data from an independent survey, which is submitted along with the application. The designation of a site as lightly or seriously contaminated is commonly done on the basis of national reference levels and intervention values, even if regional authorities may deviate from these, for example, because of specific background values or a regionally developed policy.

In **Romania,** soil studies have been undertaken to create periodically updated monitoring (through profiles and related databases) of soil/land for agriculture. The soil monitoring (evaluation) is mandatory at county level (NUTS3). The monitoring process is supervised by the National Institute for Pedological and Agrochemical Research and the activity itself is undertaken by the County Pedological and Agrochemical Studies Offices.

Spain, **Belgium** (**Flanders)** and **Italy** report specific legislation on soil protection and conservation. In Spain, the Royal Decree 1492/2011 classifies and assesses the land according to rural soil, urbanized soil and cost for urbanizing. In Belgium (Flanders), the 'Decree of soil remediation and protection' and the accompanying 'Order of the Flemish Government, establishing the Flemish regulation on soil remediation and soil protection', control the remediation of contaminated land preventing new contamination. Transfer of land requires a soil certificate. Soil evaluation is mandatory when there are indications of soil contamination. A descriptive soil investigation (concerning the dispersion of contamination and its future evolution) and, if necessary, a remediation project must be provided.

In **Italy** some laws at national level partially concern soil: - D. Lgs 152/06 (EIA, SEA and Nitrates Directives and soil contamination); D. Lgs 99/92 (Management of sewage sludge). More actions aimed at soil protection are developed at the local level mainly by urban plans, land use plans, etc. In Italy, the authority of soil management lies within the regions).

It is currently understood that land planning does not consider soil evaluation in **Switzerland** (excepting for ‘Fruchtfolgeflächen’, a cadastre of protected valuable agricultural areas characterized by crop rotation fields – see response n. 3). However, the Swiss Federal Office for the Environment has begun to define a Swiss soil strategy which will probably include policies and guidelines to include soil evaluation as part of the land planning mechanism.

In **Slovakia**, soil evaluation is mandatory and every development plan must evaluate its impact on the soil. This evaluation is then approved by the "Land office" authority.

In **Turkey,** soil evaluation is under the responsibility of DG- Agrarian Reform (DGAR), Ministry of Food, Agriculture and Livestock and they provide guidelines, frameworks and directives dealing with land use planning.

No responses were provided by **Albania** and **Estonia** to question 7.

Question 8a - Soil characteristics for soil evaluation: which soil characteristics are used in the soil evaluation (e.g., physical/chemical/biological data)? Please specify according to planned use/purpose and/or economic sector (e.g., construction, agriculture, nature) where relevant.

Overview

Many countries report a list of soil characteristics (such as pH, % humus content, % fine clay content, soil unit, soil type, etc.) but it is not clear which of these are mandatory.
Soil characteristics most frequently identified include physical, sometimes chemical and almost never biological (biological data are used in Finland, if the EIA procedure is necessary) characteristics.

In many cases, the answers confirm that in urban planning or in cadastral assessment, physical, chemical and biological characteristics are taken into account (Greece, Turkey, the FYROM, the Netherlands, Slovakia, Romania and Finland).

Summaries of Country Responses

In **Belgium** (**Flanders)**, to assess soil contamination, physical, chemical and biological data are evaluated depending on the type of contamination and the necessary risk evaluation. The risk evaluation depends on the characteristics and destination type of the land (nature, agriculture, recreation, housing and industry). In this way, land planning is taken into account and soil quality is safeguarded for future use.

Since 2004 in **Bulgaria,** a monitoring programme has been developed; it consists of large-scale monitoring, medium-scale monitoring and observations at the small scale to investigate soil contamination. The observations at level I (large-scale monitoring) are carried out in a uniform grid of 16x16 km in 397 points and provide data to assess the state of soil for several parameters (chemical and physical). The frequency of this monitoring is 5 years. Observations at level II are oriented towards regional manifestations of degradation, acidification and salinisation. Observations at level III are identified through the presence of local soil contamination; at this level an inventory of areas with contaminated soil is undertaken. The inventory is partial and irregular, based on available data.

In **Croatia,** there are no prescribed soil characteristics and parameters, regardless of the land use category.

In **Finland**, depending on different land use (construction, agricultural or natural areas) physical, chemical, biological, landscape and/or and cultural heritage characteristics are investigated.

The **FYROM** does not specify soil characteristics when reporting land classification for cultures (arable land, rice field, gardening land, orchard, intensive orchard, vineyard, intensive vineyard, meadow, pasture, forest, swamp and reed) included in the cadastre.

Germany and Spain do not report soil characteristics (physical/chemical/biological data). Germany emphasises soil functions/threats evaluation (soil fertility, soil contamination, etc.)

whereas Spain highlights urban exploitation of land (surrounding public services, cost for maintaining land, neighbouring socio-economic scenarios, etc.).

In **Hungary**, there are different soil characteristics to be considered, depending on the framework. Soil fertility (1-8) classification uses several chemical/physical parameters (thickness, colour, slope, groundwater etc.). High-quality Arable Land and High quality Forest Areas datasets use similar, but s mainly physical (texture, water management, soil reaction and carbonate-status) parameters.

In **Italy** chemical and physical characteristics are used in the agricultural sector to determine soil suitability evaluation (e.g. cereal, maize, rice, etc.).

In **Kosovo**, the physical characteristics of soil (type of soil, texture of soil, depth of soil, drainage, slope, altitude, and rainfall average) are used to evaluate the soil.

In **Latvia**, according to the Regulations on Cadastral Assessment, the State Land Service determines the quality assessment of the utilised agricultural land using a points-based system based on the existing approved soil quality maps of agricultural land (from the 70ies or 80ies). If there are any changes in land use type or drainage system, the State Land Service can update the quality assessment of the land parcel by using the land assessment tables and designations of the soil type and mechanical content.

In the **Netherlands**, the soil evaluation changes in relation to land use (building, soil transport, living areas, gardening, playgrounds); LAC values (levels of possible contamination to act upon in agricultural activities), in addition to plant protection residues (nitrogen and phosphorus concentrations), are taken into account.

In **Poland,** the only criterion of soil evaluation in spatial planning is the production value; physical/chemical/biological data are not indicated.

In **Romania**, the following soil characteristics are taken into account in the soil evaluation:

- General: climatic zone (precipitation, temperature) and relief category (altitude, slope, exposition, etc.)
- Physical (density, porosity, compaction, available water capacity, permeability, resistance to penetration, etc.)
- Chemical (concentration of total or active carbonate, pH, sum of exchangeable bases, concentration of organic matter, total nitrogen concentration, mobile phosphorous concentration, exchangeable sodium concentration, etc.)

In **Slovakia,** the following characteristics are used in soil evaluation: climatic region, main soil unit, soil type, slope, cardinal direction (e.g. N, E, S W), stoniness, soil depth, altitude, erosion of agricultural land, compaction of agricultural land, organic matter balance, liming of agricultural land, hazardous substances in the agricultural land.

In **Switzerland**, no soil characteristics are taken into account; even though for 'Fruchtfolgeflächen' some chemical contamination types and soil physical issues are considered.

In **Turkey**, chemical and physical soil characteristics are used in the soil evaluation (soil depth, surface soil texture, permeability, salinity, drainage, surface stones, surface

rockiness, slope, erosion, parent material, CEC, % CaCO3, structure, boron, organic matter).

No response was provided by **Albania, France** and **Estonia** to question 8a.

Question 8b - Soil characteristics for soil evaluation: in this context, do you categorise/classify soils according to their economic value? If so, please document such classification, indicating the categories of soils with highest/intermediate/lowest value and the rules to define the value?

In general economic value is not used to classify soil formally, except for some countries; even though good soil characteristics are linked with economic value. Aspects other than soil characteristics may influence the price, such as location and access. When a soil classification is reported, it is related to the agricultural production function of soils, where the soil classes reflect different suitability of soils for agricultural production, thus referring indirectly to their economic value.

Summaries of Country Responses

Some countries (**Spain, the FYROM, Kosovo**) link the economic value of soil to current land designation, considering mostly the different cadastral valuations:

- In the FYROM**,** cadastre parcel (vicinity of populated places), access (connection with infrastructure), relief, climate, etc. are considered to define the economic value of an area.
- In **Kosovo,** 40 people carried out land evaluation in terms of economic value using different parameters (fertility of soil, class of soil, texture of soil, distance from urban area, distance from road infrastructures, irrigation system, altitude, slope and exposition).
- In **Spain,** the economic value depends, among other factors, on the location, the specific uses and exploitation regime (for example land may be converted to other more lucrative uses).

In **Croatia,** soil quality is classified according to physical characteristics based on pedology research.

In **Germany**, soil classification based on economic value does not exist at federal level; some federal states use an accounting system to compare different sites / soils for special planning purposes.

In **Greece**, appropriate bodies (e.g. the National Agricultural Research Foundation (NAGREF), in particular the Institute of Soil Mapping and Classification) arrange soil classification according to economic value, using scientific criteria.

In **Hungary**, the land classification system based on potential yield was introduced for taxation purposes. Lands were classified by their income-generating capabilities, with different classification for each land use type. Net cadastral income of the land was determined by the difference of the expected long-term mean crop yield under usual farming and the usual costs of farming. This value was expressed in gold crown, the currency of that period.

In the **Netherlands,** high land values are found in areas of dynamic land-use change characterised by economic activities, dense population, good transport options and supply of services, such as flood protection. Special areas to protect and maintain include historical areas and landscapes, nature reserves, special geology or soil values (marlstone land, former isles in now reclaimed land, old river beds).

In many cases economic value is related to agricultural functions (**Slovakia**, **Bulgaria**, **Romania, Switzerland** and **Italy**) and land is divided in soil suitability classes partly reflecting their economic value (similar to Land Capability Classification - LCC). For example agricultural land in Bulgaria is classified into 10 categories according to the productive capacity of the soil, climate, topography and technological qualities of the land, suitability for the production of various kinds of vegetation and restrictions on land use.

In **Switzerland**, there is no direct economic evaluation of soils, although some work has started this year in the context of the definition of the Swiss soil strategy, and in the framework of the Swiss National Research Programme 68 on soils.

Latvia and **Finland** just answered "NO".

Albania, Estonia, **Belgium (Flanders), France**, **Poland, Switzerland** and **Turkey** did not answer to question 8b.

Question 9 - If soil quality is assessed in the planning process, which soil functions are taken into account, and to which degree?

The food and biomass production, environmental interaction, and archive for natural and cultural heritage soil functions have been reported as important for at least half of the countries. In some countries food production appears as the most important one, and the compensation fee to change from agricultural to an alternative land use is sometimes guided by potential production. Some countries (e.g., Finland, Netherlands) specify that soil functions may gain/loose importance depending on the planned land use. For example in the Netherlands the carbon pool function is important for nature areas, neutral for agricultural areas and usually not taken into account for urbanized areas. Functions reported in addition to the suggested ones are groundwater protection and adaptation to climate change.

Summaries of Country Responses

Food and other biomass production: important (Turkey, the FYROM, Bulgaria, Romania, Finland, Poland, Germany, Hungary), not important (Switzerland), indifferent (Kosovo, Slovakia, Latvia, Croatia), no answer (Greece)

Environmental interaction (storage, filtering, and transformation): important (Turkey, Switzerland, Greece, Slovakia, Bulgaria, Romania, Finland, Germany, Hungary), indifferent (Macedonia, Latvia, Croatia, Poland), not important (Kosovo)

Carbon pool: not important (Turkey, Switzerland, Kosovo, Slovakia, Hungary), important (FYROM, Bulgaria, Romania, Finland, Croatia, Germany), indifferent (Latvia, Poland), no answer (Greece)

Biological pool: habitats, species and genes: important (FYROM, Slovakia, Bulgaria, Finland, Croatia, Germany, Hungary), indifferent (Turkey, Kosovo, Latvia, Romania, Poland), no answer (Greece), not important (Switzerland)

Source of raw materials: important (Kosovo, Greece, Slovakia, Bulgaria, Finland, Germany, Hungary), not important (Turkey, Switzerland, Romania), indifferent (Latvia, Poland), no answer (Croatia)

Physical platform for humans and landscape:), important (FYROM, Kosovo, Greece, Bulgaria, Finland, Germany, Hungary), not important (Switzerland, Romania), indifferent (Turkey, Slovakia, Latvia, Croatia, Poland)

Archive for natural and cultural heritage: important (FYROM, Kosovo, Greece, Slovakia, Bulgaria, Finland, Germany, Hungary), not important (Switzerland, Romania), indifferent (Turkey, Latvia, Poland).

In **Belgium** (**Flanders),** soil functions related to climate change adaptation are the most important.

Germany includes "groundwater protection" as a soil function taken into account; furthermore the governmental-federal-states-working group for soil protection (Bund-Laender-AG Bodenschutz [LABO]) published a guidance document concerning improved consideration of soil functions in environmental planning.

In **Finland**, the importance of different functions varies according to whether it is an urban or rural area.

In **Hungary**, the most important functions are the soil fertility, productivity and the groundwater vulnerability.

The responses of **Latvia** are all "indifferent" because the soil functions are not evaluated in the planning process, only indirectly by taking into account the soil quality.

In the **Netherlands,** the importance of soil functions depends on the planned use: city, agriculture or nature.

Poland specifies that the assessment of soil functions is not mandatory (only the division of land into soil classes is).

Switzerland only considers contamination in its planning process. The Swiss Soil Strategy will most probably be based on the EU soil function definitions as outlined in the EU Soil Thematic Strategy and the document on the Threats to Soil Quality in Europe[31]. Currently, the Swiss legal texts on soil do not include specific soil functions; they are based on the concept of soil fertility and soil threats instead.

Albania, Estonia, **France**, **Spain** and **Italy** did not answer question 9.

Question 10 - Does soil degradation (e.g., contamination, soil sealing, erosion) require compensation (e.g., money, land of similar quality/value), and if so, by whom (e.g. developers, industry)? In case of monetary compensation, please specify whether soil

[31] http://eusoils.jrc.ec.europa.eu/esdb_archive/eusoils_docs/other/EUR23438.pdf

information (e.g., estimated loss of soil functions) is taken into account in estimating compensation. Please illustrate your information with specific examples.

Overview

All countries consider “contamination” as the main soil degradation process and the general policy is that "the polluter pays", which means that the polluter compensates the costs associated with the elimination of the danger of the environment pollution (FYROM, Latvia, Romania, Croatia, Poland, France, Slovakia, Hungary and Italy).

Official regulations regarding soil sealing are mentioned in two cases (Romania and Germany).

Summaries of Country Responses

In **Belgium (Flanders)**, the new land owner can demand a financial security from the previous land owner for the remediation cost of the soil.

In **Bulgaria,** if a portion of a property is necessary for the construction of important strategic projects, e.g. energy or roads, compensation will be monetary or alternatively via exchange of land in the same category.

In **Croatia** and **Finland**, there are no specific obligations in the law, and in Croatia this depends on local and regional governance.

The **French** Environmental Code provides that the State makes public information available on the risks of soil pollution. This information is taken into account in plan development and revision.

Soil sealing compensation procedures are required in spatial and environmental **German** planning. Furthermore, potentially hazardous changes to soil functions (by contamination or erosion) must be controlled by remediation to prevent or reduce the spread of pollutants.

In **Greece**, some regions and municipalities have requested compensation for coastal erosion. However, the competent Ministries do not accept responsibility for the wrong doings (e.g. citizens building without permission, developers not respecting minimum distances to the coastline) of developers and citizens, and in any case do not have compensation funds available. To date no such requests have been granted. However, competent Ministries have recently cooperated to amend the existing Law on Coast & Seashore, so as to provide incentives to respect the rules and guidelines to avoid inappropriate land use and development activities in coastal areas.

In **Hungary**, monetary compensation for any soil degradation will only occur if the degradation is not caused by the owner/tenant of the land via inappropriate use. In case of off-site effects, Hungary applies the polluter pays principle. Use of productive land for other purposes requires a payment of a single land protection fee by the user (investor). The size of the land protection fee is determined by the quality and size of the land taken out of cultivation. The amount of the land protection fee depends on the quality class and cadastral value of the given land parcel.

In **Italy**, according to the regulation on contaminated sites (Legislative Decree n. 152 issued in 2006) risk-based remediation objectives for soil are developed according to the use of soil

(actual and planned use), so that the quality is satisfactory (in terms of the protection of human health) for the planned use.

In the **FYROM,** the protection of soils is regulated with several laws; however there are no specific rules for compensation for soil degradation.

In **Spain**, a national law on environmental responsibility establishes specific rules for valuation and economic determination of environmental damage. In the case of soil contamination, according to this national law, if a soil is declared contaminated it has to be remediated but no compensation is provided.

In **Switzerland,** compensation is not required in general; it is required for particular areas (crop rotation areas – "Fruchtfolgeflächen") and landscapes of high value. The "Federal Act on the Protection of Nature and Cultural Heritage" states: "if damage by technical interventions to habitats deserving of protection is unavoidable, the party responsible must take measures to ensure the best possible protection, restoration, or, failing that, the provision of appropriate compensation." Whether soil is also included in the term 'habitats deserving of protection' is not clear.

In the **Netherlands**, compensation is provided for waterworks[32].

In **Slovakia**, soil degradation is compensated by the developer.

In **Poland**, the owner of agricultural land is obliged to prevent soil degradation, particularly erosion and mass movement. The appropriate authority for the protection of soils may, if agreed, demand afforestation or creation of permanent grasslands from the owner. Where other forms of degradation, caused by the owner, are taking place, the executive body of the basic territorial unit may demand appropriate actions from the owner with costs paid by the owner.

Turkey had no information to report.

Albania, Estonia and **Kosovo** did not answer question 10.

Question 11a - Contaminated land as a resource? How is contaminated land considered as a potential resource in land planning? In particular, which rules are used (e.g., remediation so that the quality is satisfactory for the planned use or so-called 'fit-for-purpose', or restoration of the original soil quality/functions)?

Overview

Eighteen respondents responded to question 11a. Of these, 11 noted that responsibility for the governance of contaminated sites is located at national level, 2 at the local level (Croatia and Belgium (Flanders)), while for the remaining 5 contaminated sites are not prioritized yet. Twelve countries claim to operate a risk-based land management approach, which means applying risk assessment and risk management to address problems associated with land contamination, including actions to keep risks within tolerable limits. Within this framework the chemical threshold is different according to the use of soil and receptors present at the

[32] Waterworks comprehend water flow channels and nautical channels

site. Fourteen respondents report that soil contamination influences directly or indirectly land use development, and the revision of land plans at various level of governance.

In the general framework the presence of contamination is seen as a problem and not as an opportunity, as it limits land use possibilities. However, in Belgium (Flanders), Germany, the Netherlands, and Switzerland, contaminants are seen as a resource or potential resource and some countries/regions (Belgium (Flanders) and Switzerland) have developed legislation/regulation to facilitate the reuse of brownfields. However, in other countries experience of brownfield reuse at various scales may exist, but is not reported.

Summaries of Country Responses

In **Belgium (Flanders)**, risk evaluation is site specific and depends on the relevant receptor defined according to land use (nature, agriculture, recreation, housing and industry). In this way, land planning is taken into account and soil quality is safeguarded for future use.

In **Bulgaria**, the “polluter pay principle” is applied. There are legal instruments that force the polluter to restore the damage. In the case of historical contamination or an unknown polluter, the expenses are paid for by the government. For conservation of agricultural lands, there is a specific act that regulates protection from damage, restoration and improvement of fertility of the land, and establishes the terms and conditions for change in use.

In **Croatia** there is no specific national legislation; action depends on local and regional governance (counties, cities).

In **Finland** the responses are stakeholder driven: if the contaminated site is situated in a central area or in an area where pressures for land-use change are evident, sites are remediated either for residential or recreational use. Assessment of remediation need is site-specific and risk-based.

In **France**, investigation into soil pollution should be undertaken during the period of closure of economic activities, and the community plays a role in choosing the future use of the area. For other contaminated sites, the data on soil quality is taken into account in land planning assessments during periods of redevelopment.

The contamination of productive soil is a major problem in the **FYROM**, especially due to the lack of monitoring of the extent of contamination through the established monitoring and information system. Furthermore, the contaminated land is not addressed in the land planning documents, and there are only feasibility studies for the remediation of specific contaminated areas by industry.

In **Germany**, in some cities or regions, contaminated lands (brownfield areas) are considered as a potential resource. As regards future development, reassurances are sought so that no hazards to individuals or the general public will occur.

Greece reports that up to now, there has been no pressure or demand to use contaminated soils for urban use, in particular housing. Nevertheless, Strategic Environmental Assessment and Environmental Impact Assessment are compulsory before approval of urban planning

processes. There are several factors that should be taken into consideration in both assessments: the existence of nature areas, availability and use of water, waste management aspects and transport aspects as well as soil quality and appropriateness of grounds.

In **Hungary**, the remediation activity follows the determination of the site-specific, risk-based limit value, which will be the target of the remediation activity. This limit value should take account of the actual or future land use.

The **Italian** legislative framework on contaminated sites sets risk-based remediation objectives for soil according to the use of soil (actual and planned use) to ensure that the quality is satisfactory (in terms of human health protection) for the planned use. Residential and industrial/commercial use of land are taken into account, while agricultural use of land is evaluated through the application of specific protocols including vegetable and plant uptake evaluation, according to the indications of regional/national health authorities.

In **Latvia**, the contaminated sites are registered in a national registry. The State Environmental Service provides local government with information about site restrictions. The restrictions are determined, taking into account the level of danger of polluting substances, the possible effect on people living in the surrounding territories, the environmental quality of such territories, and the necessity to take remediation measures in the future. The Health Inspectorate determines the restrictions required to ensure human health protection. These restrictions must be taken into account when developing local spatial plans.

In the **Netherlands**, contaminated sites are considered as a potential resource. The presence of contamination may influence the timescale for planning determinations because of the need for soil investigation and management. Soil contamination limits the number of land use options and lowers economic use and value. In these cases the application of ‘fit for purpose’ principle often applies, but frequently companies prefer complete restoration to the baseline condition.

In **Poland**, soil quality has to be protected (remain at a certain level) or should be restored if the soil has been degraded. The regulation of the Minister of Environment (2002) on soil and land quality standards specifies the criteria for soil quality, referring to the content of contaminants. Soil quality standards, understood as contaminant content, are set for three different land use types: protected areas, agriculture and housing, and industrial and transport infrastructure. If the content of the contaminant exceeds the relevant threshold, spatial planning will not allow that the soil be assigned to the given land use, e.g. housing, unless it is decontaminated. Alternatively, the use of the land can also be changed - for example to use the land for transport or industry.

In **Romania** there is a ”National Strategy Management for Contaminated Sites” which insists on different alternatives: the rehabilitation can be performed according to site-specific conditions and on the basis of the future use of land.

In **Spain**, contaminated soils should be remediated, and their chemical quality should reach satisfactory values for the planned use.

In **Switzerland** polluted sites are identified in a nation-wide register. If the site is in need of a remediation, the competent authority will set the objectives and urgency of the remediation and will oblige the holder of the site to carry out the remediation. The goal for soil remediation is to reach satisfactory quality according to the "fit for purpose" principle, and not full restoration to the previous condition. There is no special obligation to construct on polluted rather than unpolluted or unused land.

In **Turkey** and **Kosovo,** soil contamination is considered as a problem, but it has not been taken into account in the land use planning process.

No response was provided by **Albania, Slovakia** and **Estonia** to question 11a.

Question 11b - In this context, are there specific rules concerning change of use or trading/sale of contaminated lands? If yes, please provide examples, indicating the level of governance and the legal/procedural basis, if any.

Overview

Fifteen respondents completed responses to question 11b. Of these, 10 respondents identified soil evaluation as necessary when trading or selling contaminated sites. The information on soil contamination should be available to the public or just to the potential buyer. In six cases, inventories of contaminated sites are in place at national or regional levels (Belgium (Flanders), France, Germany, Italy, Latvia, and the Netherlands) and the information is available to the public through paper registers or websites. In three countries (Germany, Italy and Spain), the information on soil contamination is recorded in a cadastre and is available publicly. In Finland the information must be made available to the purchaser; if not the purchase contract can be cancelled.

The presence of contamination influences land planning decisions for all respondents, and for thirteen countries, apart from the FYROM and Hungary, there are rules to follow when trading/selling a contaminated site. The supposed cost of remediation is seldom a matter of negotiation during the acquisition, and sometimes this cost is estimated via a due diligence process carried out by a third party.

Summaries of Country Responses

In **Belgium** (**Flanders)**, companies and other parties responsible for soil remediation or stakeholders can conclude a Company-specific Agreement to help them in phasing the soil remediation activity and the associated costs.

In **Bulgaria**, the Law on the protection of agricultural lands regulates the protection from damage, restoration and improvement of the fertility of the land, and establishes the terms and conditions for a change in use. The Ministry of Agriculture and Food has the right to impose mandatory restrictions on agricultural land use that results in deterioration of the ecological functions of soil. In order to prevent further use of the land and conserve the best agricultural soils and most valuable landscapes, the fee for the conversion of agricultural

soils depends on the quality of the soil, the category of the place and the possibilities for irrigation.

In **Croatia,** contamination should not be hazardous to the environment; otherwise remediation must be undertaken prior or after the sale or trade.

In **Finland** those selling or renting a polluted site must inform the new owner or tenant about the kind of activities that have been carried out on the site, and if any pollution has or may have occurred. If this obligation is neglected, the buyer has the right to demand that the agreement be cancelled, that the price be lowered or that the seller covers the damages. If the site has been remediated after industrial use, and there is a need to change the land use, then it is necessary to assess the requirement for remediation. If the land use plan is updated then all the above-mentioned issues must be taken into consideration.

In **Germany**, information on the contamination has to be included in the cadastral register and in the contract of purchase. Otherwise the former owner (or occupant) has the responsibility for the prevention of hazards.

In **Greece**, the polluter pays principle applies and the Environmental Liability Directive (2004/35/EC) is respected and implemented. However, there is no pressure or demand to use contaminated soil for urban uses and in particular for housing.

There are no specific rules concerning change of use or trading/sale of contaminated lands in the **FYROM**. The treatment of certain contaminated areas is defined in the feasibility study for the specific case. When the government sells sites for industrial development on the contaminated land, it prescribes in the sale-contract the terms for remediation by the new buyer.

In **Hungary**, there are no specific rules for the property transfer of contaminated sites. However, if a contaminated site has a detailed inventory and the remediation activity takes obviously longer than 5 years, the environmental protection agency takes steps to make the user cover for the environmental damage.

In **Italy**, trading/sale of contaminated land is regulated by private contracting and contamination issues are generally investigated during the due-diligence phase. If an owner decides to change the use of the site into residential use, he has to submit a new remediation proposal including risk-based objectives developed for a residential use. If an owner of a contaminated site decides to sell the contaminated site and the remediation activities of the site are not completed, the new owner, before signing a sale contract, can invoke due diligence including environmental aspects in order to take into account the remediation costs in the transaction.

In **Latvia**, information on the initial assessment of polluted and potentially polluted sites is freely available to the public. If the owner of (potentially) polluted land wants to transfer this to another person by sale or otherwise, he/she has a responsibility to inform the future owner that the land is registered in the Polluted or Potentially Polluted Sites Registry. If the pollution is found after the transaction, the new owner is obliged to cover the remediation expenses.

The legal provisions regarding the sale of contaminated land in the **Netherlands** are a complex matter. Much may depend on arguments in negotiations with local authorities and practical considerations in land/city development. Some aspects that may be considered are: unjustified enrichment (buying inexpensive land while pretending not to know anything about the pollution and trying to leave the clean up to the government), innocent users or buyers, dispersion to neighbouring land, financial strength of the owner, main pollution period. Municipalities may aim at regional soil and groundwater quality control management with fixed contributions from land owners who polluted in the past. The continuation of these contributions may also be part of land sale contracts.

In **Romania,** investigation and evaluation of soil and subsoil is the obligation and responsibility of the economic operator, or owner of polluting or potentially polluting activities. Investigation and evaluation of soil and subsoil pollution is made in two cases: in case of proven environmental responsibility of the above-mentioned operators/owners, or if the land use change of land on which a previous activity resulted in environmental impacts, is planned.

In **Spain**, the declaration of a soil as contaminated may prevent the execution of building rights and other land development if they are incompatible with the remediation or recovery measures. The owners of soils that have supported potentially polluting activities should present a soil status report if a change of use is planned. Moreover the site declared as contaminated shall be recorded on the folio of the registered property affected by a marginal note that informs buyers about the land situation.

In **Switzerland**, construction on polluted land is only allowed if the site is not in need of remediation, and the project does not make the remediation necessary, or its later remediation is not seriously hampered, or if it is remediated during construction.

In **Turkey** and **Kosovo,** soil contamination is considered as a problem, but it has not been taken into account in trading/selling of land.

No response was provided by **Albania, Estonia, France**, **Poland** and **Slovakia** to question 11b.

Question 12 - Can you provide examples of avoiding additional land take/aiming at 'no net land take'. Please provide context, including the level of governance.

Overview

Fifteen respondents completed question 12. Of these, 4 respondents (Germany, Italy, Romania and Switzerland) delivered one or more examples of "no net land take", in some cases indicating websites where additional information could be found. However eight respondents (Bulgaria, Belgium (Flanders), France, Hungary, Italy, Latvia, Romania, and Turkey) report that this concept is already embedded in legislation and/or regulation at different levels of governance and consequently, that soil consumption is recognised as a key problem.

In **Belgium** (**Flanders)**, OVAM is involved in the removal of waste products and soil remediation and strives to integrate cleanup activities into broader redevelopment projects. This ensures the creation of significant added value. Good communication with all parties concerned is crucial. In this way, transfer of 'used land' is guaranteed, aiming at no net land take.

The **Bulgarian** decisions for "no net land take" involve trade-offs between many stakeholders (transport, energy, mining, agriculture and forestry). Agriculture and forestry represent the largest share of land use. The target will be tackled through integrated programmes for land use and territorial planning, policies as well as targeted instruments, such as protected area networks. The future directions of agricultural policy and the implementation of renewable energy targets will have a significant impact on forest and agricultural land use and its intensity. The role of green infrastructure and site protection under Natura 2000 as well as the re-use of land are also mentioned as important aspects of land resource management.

In **France**, the "Code de l'urbanisme" provides that construction projects, facilities, installations and other works with a consequent reduction of the surfaces of agricultural activity must first be submitted for review by the representative of the State Department to the County Commission Consumption of Agricultural Land[33]. The same Code requires the presentation of an analysis of the consumption of natural, agricultural and forest areas in the ten years prior to the approval of the proposal, and that each redevelopment plan should change when the provisions have provided excessive consumption space, not considering the public transportation service, or not sufficiently taking into account matters related to the preservation or restoration of ecological continuity conditions.

Germany has reported three examples of "no net land take". The first one in Wallmerod (www.lebenimdorf.de) where, recognising that many houses and sites in the center of their village had been abandoned, the community of Wallmerod decided to stop land take completely and to focus on the revitalisation of abandoned sites. The local government started a campaign "life in the village - life in the middle of the middle", hired architects to consult the owners and buyers of old houses and derelict sites and also gave some subsidies. The second one, in the framework of the research program REFINA (http://www.refina-info.de/projekte/anzeige.phtml?id=3107), the Land Saarland participated in a strategy aiming at zero land take ("Flächenkonstanz Saar"), because amongst the western German Laender, Saarland is the one with the fastest shrinking population. The third one, in order to establish the 30-Hectares-Goal, the German government is trying to establish trade with "area certificates" an analogy to CO2-Emission-Certificates. At present, 15 local governments are taking part in the trade (http://www.flaechenhandel.de/). By next year, the number of trading communities will be enlarged step by step up to 100 local governments. If the system were established, it would also be possible to tune the system to a 0-Hektares-Goal including "white certificates", meaning that only new land would be taken if at another place land was given back to nature.

[33] Observatoire national de la consommation des espaces agricoles (ONCEA)

In **Hungary**, the Darányi Ignác Plan, the implementation plan of the National Rural Development Strategy 2012-20 includes legislation tasks including stricter land protection rules with a view to restrict greenfield investments as a priority task.

In **Italy**, one example of avoiding additional land take exists in the Region of Lombardy, where information on brownfields (area, location, contaminants of concern) is collected and stored in a public database, published on the Region website to promote re-industrialisation.

In **Latvia**, it is the competence of local government to set the restrictions on building in the local spatial plan. Some examples may exist at local level.

At present the primary concern of the planning system in the **Netherlands** is how to promote development as the crisis has brought urbanisation to a virtual standstill. The concept of "no net land take" is not very well developed.

In **Romania**, the system of cross-selling accounts is based on eco-points. Development work requiring ecological compensation measures in accordance with the national law on nature conservation are taxable to the eco-points. Developers must demonstrate that compensatory measures are carried out with equal value elsewhere. Eco-points can be purchased at clearing agencies formally authorised and carrying out compensatory measures. Agencies are holders of eco-compensation accounts, sell eco-points and are responsible for compensatory measures. This concept is proposed at the European level.

The Federal Office for the Environment of **Switzerland** (www.areale.ch)**,** together with partners put up a website serving as an information- and exchange-platform (www.friches.ch) for the re-use of brownfields.

In **Turkey**, the legislation in force addresses soil conservation and land use planning to avoid additional land take.

Croatia, Finland, Greece, Kosovo and the FYROM assert that any examples of "no net land take" are not yet implemented.

No response was provided by **Albania, Estonia, Poland, Slovakia** and **Spain** to question 12.

4 – Summary Tables: Key Messages

Question 1 summary table			
Country	**Response provided**	**Summary of instruments**	**Relationship between national, regional and local authorities.**
Albania	✓	• Legislation is cited but specific undertakings are unclear.	• Some suggestion of vertical integration but further detail required.
Belgium (Flanders)	✗	No response provided	
Bulgaria	✓	• Legislation is cited but specific undertakings are unclear. There is a stated emphasis given to reducing inter and intra-regional disparities to promote more balanced forms of development.	• A 'National Strategic Reference Framework' provides the context against which local action can occur.
Croatia	✓	• Response refers to a variety of plans at a range of spatial scales. Other plans are prepared for areas of specific character or sensitivity.	• The need for both vertical and horizontal integration is emphasized although the mechanisms for securing this are unclear.

Estonia	✓	• The Planning Act is defined as the principal piece of legislation. Four different types of plan (of increasing detail) are identified (national, county, city/municipal and detailed). The themes of these plans are outlined but further explanation required with regards to the implementation of development.	• Strong vertical links are identified with more detailed plans following the guidance of the more strategic plans above. However, it was acknowledged that the adoption of a more detailed plan can lead to certain changes in the general plan.
Finland	✓	• The Land Use and Building Act 2000 is defined as the principal piece of legislation which sets the framework for plan-making across Finland. National land-use guidelines set out the broad goals of policy which then have to be reflected through regional, local and detailed plans. Regional plans cover the same geographical areas as the regional councils but greater flexibility exists with respect to the coverage of local and detailed master plans.	• A clear hierarchy in policy development and plan-making. Regional plans have to respond to national guidance, local master plans have to respond to the regional plans and so on. Regional plans have to be approved nationally, as do joint plans.
France		• A variety of planning instruments exist for a range of spatial scales. Two of the most significant include the strategically focused SCOT plans and the PLU plans that are produced at the scale of a municipality.	•
FYROM	✓	• There is a law on Spatial and Urban Planning but national responsibilities are split between two national departments. There is a national plan and a series of other local (and sub-regional) plans but there are no regional plans.	• Evidence of a hierarchy of policy plans, although there is no regional tier.

Germany	✓	• The Federal Spatial Planning Act (Raumordnungsgesetz, ROG) regulates the aims, the instruments and the procedures of spatial planning. The ROG has goals relating to the protection of soils and the prevention of sprawl but other goals can be used against them (for instance those that encourage housing growth in the periphery). Local planning is governed by a Federal Building Code.	• Vertical connections in policy direction but unclear as to particular mechanisms in place.
Greece	✓	• Two pieces of legislation are referred to. The first focuses on national and regional issues, the other for (local) urban planning. There is a single national planning framework, 12 regional plans, and five sector strategies (including on renewable energy and aquaculture). Local plans also exist but the form of these is subject to review. The planning system is accompanied by two Presidential Decrees.	• There is a hierarchy in terms of plan-production from the national to the local scale.
Hungary	✓	• In Hungary land planning is divided into two parts: territorial and settlement planning. Territorial planning includes regional development and spatial planning. County level spatial plans are elaborated in accordance with the goal of National Spatial Plan. County level spatial plans allow the consideration of regional and local interests and introduce restrictions during the preparation of settlement plans.	• On the top of the hierarchy of land plans is Act No. 26/ 2003 on the National Spatial Plan (NSP) which lays down the national regulations for land use and the spatial framework of spatial planning to ensure a balanced regional development. It also creates a framework for regional, county level and local regulations
Italy	✓	• The key piece of legislation is defined as the Urbanistic Law, n° 1150 of 1942. Instruments are used to set the principles and expectations of the planning system. A series of plans exist at the regional/sub-regional and provincial/local scales. Urban development is regulated by municipal administrations, and is determined by the regulations set out in the PRG (Piano Regolatore Generale).	• A clear hierarchy of plans exist, with an element of direction appearing to exist from upper to lower order plans.

Kosovo	✓	• Two levels of planning are identified. The national tier is concerned with policy development while the local tier is concerned with the control and use of development.	• Split responsibilities with evidence of procedural links.
Latvia	✓	• A 'Sustainable Development Strategy' and 'National Development Plan' provide the context against which regional and local plans are prepared. Local planning documents include a mix of strategy and site-specific direction.	• A hierarchy of planning duties with national, regional and local plans.
Netherlands	✓	• The Netherlands has a network of local, and in some cases very detailed, set of local zooming plans that carry legal rights to development (which are realized through the issuing of permits). Some of these plans are prepared by the national government for infrastructure projects. Local zoning plans have to respond to ordinances that set out basic parameters for development. In addition to the zooming plans, all three government tiers (national, provincial and municipal) are required to prepare structural or strategic statements for their area.	• Responsibilities for planning extend across three tiers, with the structure plans at each level providing an opportunity for vertical integration.
Poland	✓	• Overarching national spatial plan, the National Spatial Development Concept 2030, which was adopted in 2011 • Regional and local plans provide increasing levels of detail • Spatial Planning and Land Development Act of 2003 sets out basic principles for the separate planning documents at each tier. Other legislation concerns the management of the natural environment, EIA etc	• A three tiered system of policy and planning
Romania	✓	• Law 350/2001 states that spatial planning activity should be carried out across the entire Romanian territory, based on the principles of hierarchization, cohesion and spatial integration • At the national level there is a Territorial Development Strategy for Romania and a National Spatial Planning Plan • At the regional level there are regional zoning plans and inter county/municipality plans • Locally there are General Urban Planning Plans, Zonal Urban Plans and Detailed Urban Planning Plans for specific sites and areas	• Proving clear vertical links is a distinctive feature of the planning system.
Slovakia	✓	• There are four types of plan • At the national level there is the Slovak Spatial Development Perspective • At the regional level there are regional development plans, which are followed by Municipal Development Plan • At the local level there are Zonal Development Plans	
Slovenia	✓	At National level the main document defining spatial policy in Slovenia is the Spatial Development Strategy of Slovenia (2004) that provides the framework for spatial development across the entire national territory and sets guidelines for development within European space. It provides the concept of spatial planning and management, land use and spatial protection. Acts such as *Environment protection act, Nature conservation act, Waters act* and*, Agricultural land act* also heavily supplement the framework. Detailed land use planning is done only on the local (municipal) level (Municipal	

		Spatial Plan, Municipal Detailed Spatial Plans). There is hardly any regional spatial planning carried out, and Regional Spatial Plans are an option.	
Spain	✓	• Regional administrative territories have wide competences in urban planning • The main planning tool is the Plan General de Ordenacion Urbana which is produced by the municipality administration. This plan needs to be approved regionally. Some areas do not have the benefit of these plans, for instance in small towns and villages). Where this is the case there are 'Subsidiaries Rules' which provide general information and guidance on planning • There are other types of local plan too	• Reference is made to regional and local instruments but the role of national guidance and law is rather undeveloped.
Switzerland	✓	• Overarching national strategies (Swiss Development Strategy), supported by 'concepts' (e.g. on landscapes) and plans (e.g. transport and energy) • The 26 Swiss Cantons produce a Richtplanung (spatial development concept and plan) • At the community level there is a zonal plan (Nutzungsplanung) which is implemented through construction permits (Baubewilligungsverfahren)	• A three-tier planning system with plans at each level although the level of control between/over each tier is unclear.
Turkey	✓	• Nationally there is plan which is prepared by the Ministry of Development (the tenth of these is being prepared). • There is also a National Spatial Strategy Plan which is prepared by the Ministry of Environment and Urbanism. This consists of a vision, strategic goals, policies, and annual delivery programmes • There are also regional plans although these, which are produced by development agencies, do not have a spatial dimension. By way of a complement to these, the Ministry of Environment and Environment also develops regional spatial strategic plans. There are also territorial plans which are macro scale plans that determine key land-use decisions • At the local level there are land-use and implementation plans	• Planning responsibilities are split across national, regional and local authorities.

Question 2a summary table			
Country	**Response provided**	**Key drivers of change/challenges**	**Current or proposed response**
Albania	✓	• Rural poverty • Movement of population • Poor level of planning and management of environmental space.	• No specific challenges are identified.
Belgium (Flanders)	✓	• *None identified*	• Land planning should respond to societal needs, be inclusive and be cost and time efficient
Bulgaria	✓	• Population loss from less-developed areas, placing pressure on the delivery of key services • Population growth in more attractive areas and key cities, leading to urban sprawl pressures • Significant inter and intra-regional disparities • Economic crisis has led to further inequalities	• To respond to identified disparities • To encourage more balanced forms of development across the country- the network of small and medium-sized cities should be strengthened • To develop a stronger relationship between urban and rural areas
Croatia	✓	• Loss of agricultural land through development • Evidence of illegal development, particularly at the urban edge, along key roads and in coastal locations (particularly where tourism occurs) • There are barriers against the successful implementation of policy	• A more successful implementation of policy that responds to many of the problems identified

Estonia	✓	• Disparities in the use of land. Some land is disused while some is used too intensively • Loss of agricultural land. Activity has been intensified in high yield areas while some low-yield areas have been abandoned or developed • Urban sprawl is accelerating near larger cities and along major routes • Development is also occurring in coastal areas • Land-slides and subsidence (both natural and man-made)	
Finland	✓	• Concentration of urban growth in larger cities, particularly in the Helsinki Metropolitan Area • Increased mobility and migration have begun to influence the type of place property holders are looking to • The land used per inhabitant in built up areas is more than the corresponding figure for other western and Nordic countries	• Regulations help to define quality requirements for residential environments • Environmental administration provides information on the significance of environmental quality for residents • Greater support for participatory planning methods • Commitment to integrate the spatial structure of communities more effectively
France	✓	• The plan making authority preparing these two plans have to set out their intentions to develop and manage their territory in accordance with the principles of sustainable development. • They need to set out policy relating to housing, transport and travel, retail, infrastructure, economic development, tourism and culture, and the protection and management of areas of nature conservation value, agriculture and forestry and landscape quality. • They also need to explain how they will fight against urban sprawl, and the preservation and restoration of ecological ecosystems.	
FYROM	✓	• Urban plans are used to balance different economic and social pressures	
Germany	✗		
Greece	✓		• A push for greater clarity and approval in plans • Key challenge is to promote investment and economic development in parallel with respecting the environment
Hungary	✓	According to Act on Regional Development and Spatial Planning (No 21/1996) the spatial planning process is to explore and evaluate the characteristic of an area including environmental features, to harmonise spatial planning goals across scales as well as with related planning and development goals and to achieve a spatial structure in accordance with the sectoral concepts and a land use taking into account both the development goals and the pressures on the resilience capacity of the environment.	• Spatial planning responds to changes primarily by the regular revision of spatial plans.The National Spatial Plan (NSP) is revised on a 5 year basis. Regular revision of NSP is essential since a shift can occur in national spatial foci and development trends, the situation of border regions may change and the suburbanisation-urbanisation processes may also accelerate.

Italy	✓	• Continuing pressure of urban sprawl, despite a slowdown in population growth • Growth in coastal areas is particularly significant • Incorrect [intensive] agricultural practices • Concentration of population to certain areas • Climate change and the associated effects on land-use/cover	
Kosovo	✓	• None identified	• Greater use of GIS in plan-making • Promoting the greater involvement of stakeholders in plan-making • Improving the mechanisms by which plans can be implemented
Latvia	✓	• Low population density in rural areas • Outflow of population to cities and abroad • High unemployment in rural areas • Limited educational choice in rural areas • Poor infrastructure in rural areas, compared to urban provision	
Netherlands	✓	• Uncertainty over future population projections, with some areas • Over-optimistic predictions for business space, leading to an over-supply in certain types of accommodation • Climate change and associated rises in sea-level • Technological developments, such as the growth in electric car sales	• Policy can play a significant role in shaping urban form, e.g. through the provision of infrastructure, the designation of protected areas etc.
Poland	✓	• No specific challenges are outlined	• Spatial management determines the factors of socio-economic transformation and the mechanisms of spatial development
Romania	✓	• Increase in population • Improvement of living conditions	• Commitment to protect the environment and landscape (built and natural) • Protect ecosystems • Protection of architectural and cultural identity of urban and rural areas.

Slovakia	✓	• Building of the national highway grid – in some cases this conflicts with protected areas • Building/reconstruction/enlarging of sport and recreation resorts in protected areas • Urban sprawl within the towns • New industrial zones at most cities	
Slovenia	✓	• Economic development in recent years – greenfield and brownfield investments; • Natural disasters, especially floods - water risk management; • Economic crisis: spatial and social inequalities are rising.; • Deindustrialization (in 90ies), restructuring of the economy: formation of new degraded areas, in the future we expect the formation of new degraded areas ("unused" areas of business and commercial zones, urban degraded areas etc.); • Demographic changes (Aging of the population etc.); • Transport system development - Sustainable mobility: railway system modernization, public transport improvement. • Land use change - Loss of agriculture land:• • Building on agricultural land (soil sealing). Afforestation in some regions etc. Due the share of agriculture land self- sufficient food production is threatened; • Transition to renewable energy resources: • Diversification of energy sources and building of energy links: • Conservation and integration of Biodiversity, Cultural Heritage.	
Spain	✓	• Difficult to identify specific trends and challenges given the presence of territorial territory	
Switzerland	✓	• Accelerating demand for homes (due to population growth, smaller households, increase in wealth etc.) • Congested roads and high pressure on public transport infrastructure (increase in the number of passengers, higher number of commuters - and over longer distances)	• Reducing the loss of (high quality) agricultural land • Slowing down urban sprawl • Encouraging planning in functional areas (urban, cross-border; overcoming the current planning within fixed administrative units)
Turkey	✓	• A sizeable number of illegal, or poorly constructed, properties	• Responding to these pressures as a form of mitigation

Question 2b summary table		
Country	**Response provided**	**Areas of policy making that uses the data**
Albania	✓	• Suggestion that the economic crisis has created gaps in the implementation of environmental protection.
Belgium (Flanders)	✓	• Environmental criteria remain important but the balancing of priorities may depend on the specific project, the project manager and the wider team • Ecosystem services need to be better understood and taken into account
Bulgaria	✓	• Economic crisis is accentuating regional disparities and the territorial distribution of the population. • Growth, population and economic potential is being directed to Sofia and the six other major cities of the country.
Croatia	✓	• Suggestion that there is a lack of confidence concerning the delivery of development. • The delivery of necessary infrastructure has become more difficult.
Estonia	✓	• Environmental criteria remain important but difficulties are arising from the growing involvement of investors and developers in plan-making activities, with the suggestion that their influence is influencing the shape and form development • Municipalities need to respond to such pressures by becoming stronger entities in planning themselves and bringing in other types of stakeholders (including the general public).
Finland	✓	• Environmental criteria remain important but awareness needs to be improved • There is a need for further information about the clean-up costs associated with contaminated land.
France	✓	• The Laws Grenelle 1 and 2 set environmental objectives to be considered by the land use planning process • This includes greenhouse emissions, energy efficiency, clean and safe energy production from renewable sources, quality of air, water and soil, restoration and protection of biodiversity, notably through the restoration of natural areas, forestry and ecological continuity with a "geographically balanced" distribution and space-efficient employment, housing, trade and services and rural and urban
FYROM	✓	• Environmental protection is bounded by legislation.
Germany	✗	• No response provided.

Greece	✓	• Environmental criteria remain important but the economic crisis is creating considerable pressure to develop. However the government continues to emphasise the need for taking a sustainable approach to development.
Hungary	✓	• Spatial plans are long term plans (20 to25 years) with the aim to create stability, thus they do not directly reflect the current economic situation. There is also a special, controlled legal process for inserting new elements into spatial plans between two revisions (5 or 10 years), if changes of national importance occur.
Italy	✓	• Soil degradation is occurring in many areas which, in some cases, have generated irreversible effects (or impacts that may be difficult to overcome given timing and the availability of finance). • This has arisen from population growth, the impact of climate change and changing land-uses.
Kosovo	✓	• Appropriate measures exist to ensure that environmental criteria are appropriately embedded in plan-making and project planning through the use of Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA). • However, there may be variability in the implementation of this legislation given that some SEAs are prepared by those who prepare the plan. Some plans are not subject to SEA, such as the national spatial plan. Some assessments were felt to occur too late in the process to make a difference in content/decision making.
Latvia	✓	• Environmental criteria are taken into account with SEA and EIA continuing to take place despite the economic crisis. However, strategies for protecting the environment are dependent on the type of policies and land-designations included through local plans.
Netherlands	✓	• Environmental criteria remain key and the EU has a very clear and extensive system of legislation through SEA, EIA etc. • Previously aspects of EU legislation were 'gold-plated' so that Dutch policies would exceed EU standards. This is being reviewed via the Environment and Planning Act (Ow) that is replacing all national environmental legislation and methods with a system which is based on the European directives. Questions exist as to whether local government will be allowed to impose higher standards.
Poland	✓	• Environmental criteria are sufficiently protected through SEA and EIA but there is a need for greater conformity and complementarity between local spatial development plans and those plans and strategies for the protection of natura 2000 areas. Protecting these habitats has a major role to play in protecting soil. • To help promote this greater consistency, there is a push to get a broader range of stakeholders involved in policy and plan development.

Romania	✓	• A commitment remains towards sustainable development and the protection of the environment and new legislation came into force in 2011 in order to further protect against urban sprawl and land take.
Slovakia	✓	• Environmental criteria remain key elements within decision making.
Slovenia	✓	• In 2012 the National Assembly passed an amendment to the Spatial planning act which enabled the local municipalities to use a special and very short procedure, permitting certain businesses to expand (on the existing location) to the neighbouring non-building (in most cases agricultural) land. Amendment in force for about 8 months, then put on hold by the Constitutional Court pending deliberation on whether it is in accord with the Constitution. Observed effects of the economic crisis in Slovenia include lower pressures on land, as interest in purchase of land and new investments in the last 3 years have decreased substantially.
Spain	✓	• The economic crisis has had an impact on construction and real estate activity, ending a decade of strong growth in this area which led to the urbanization of a large volume of soil.
Switzerland	✓	• It was noted that the economic crisis has had a lesser impact than other parts of Europe. The planning system continues to play attention to environmental criteria.
Turkey	✓	• By way of a response to rapid urbanization, and occurrences of uncontrolled and illegal construction activity, the emphasis in Turkey has turned to re-developing urban areas (particularly through the demolition of risky structures). The strategy seeks to

Question 3 summary table

Country	Response provided	Examples of environmental criteria being incorporated into land use planning, including any specific criteria and soil quality considerations.	Other issues
Albania	✓	Criteria is used to protect soil, but its application is difficult	
Belgium (Flanders)	×		No response provided
Bulgaria	✓	Environmental and territorial conditions are an important feature of regional land use planning, and are integrated into the strategic planning process.	
Croatia	✓	A variety of measures are in place to protect high value agricultural land, including restrictive and creative laws and policy.	
Estonia	✓	Utilizes a Strategic Environmental Impact Assessment (SEIA) to consider environmental protection. This takes a broader view on the environment rather than just the natural environment, i.e. impact is assessed from the aspects of natural, social, economic and cultural environment.	
Finland	✓	During planning various criteria must be taken into account. Impact assessment is a statutory procedure implemented in the statutory land use planning context, in which the environmental, urban, economic, social, cultural and other impacts are considered. The geotechnical and chemical quality of soils is always taken onto account and considered through this process.	
France	✓	Laws Grenelle 1 and 2 set environmental objectives to be considered. This includes greenhouse emissions, energy efficiency, clean and safe energy production from renewable sources, quality of air, water and soil, restoration and protection of biodiversity, notably through the restoration of natural areas, forestry and ecological continuity with a "geographically balanced" distribution and space-efficient employment, housing, trade and services and rural and urban.	Original content in French. Internet translation use.

FYROM	✓	Uses Strategic Environmental Assessments. The land quality (soil characteristics) is specifically a subject of elaboration in the SEA Report	
Germany	✗		No response provided
Greece	✓	Strategic Environmental Assessment and Environmental Impact Assessment are used. Soil quality and appropriateness of ground conditions are elements to be taken into account in the context of urban studies for specific local urban plans, when geological studies are carried out.	
Hungary	✓	Primarily the zoning system of spatial plans helps to enforce the environmental criteria. These zones are defined in the National Spatial Plan and applied in county master plans. (See also Q1) The zones designated for special protection purposes include Zone of floodways and open floodplains, the Zone of High-quality Arable Land and Zone of High-quality Forest Areas . As for the Zone of National Ecological Network, Core areas and zones of ecological and green corridors (and buffer areas) are also distinguished. During the delimitation of the Zone of High-quality Arable Land and the Zone of High-quality Forest Areas soil characteristics were also considered.	
Italy	✓	A variety of Legislative Decrees exist, including Legislative Decree 152/06 is also focused on mitigating hydrogeological risk, combating desertification, water resources management and protecting the soil from pollution, but there is still a lack of a national legislation giving clear target on limiting land take and consumption	
Kosovo	✓	Nature Law, Environmental law, Water, Agricultural land Law and its administrative instructs provide restrictions. Soil is graded and classified with classes 1-4 given protection but not taken into consideration as it should and as the law on soil requires.	
Latvia	✓	Strategic Environmental Assessments are employed and while there are no strict regulations of exact environmental criteria that are used to evaluate the local spatial plan, most of local governments have adopted local regulations that building is allowed only in villages or in the territories with low soil fertility. There are also designated agricultural territories of national importance with the highest soil fertility. These territories are subject to national regulation. In these territories building is restricted, except some infrastructure etc.	
Netherlands	✓	SEA or EIA are utilized depending upon the scale of the project, this includes consideration of soil quality. An Omgevingsvergunning (a form of 'permit') is applied for and this checks all the various environmental aspects	
Poland	✓	EIA are used. In the decision-making process certain criteria are taken into account, such as those related with environmental factors. The soil quality is the basis for taking decisions on the re-use of post-industrial land (and similar) to be included in the urban area and decisions on agricultural functions provide protection in the rural areas.	

Romania	✓	In sensitive areas environment analysis and approval is required. Soil quality is taken into consideration. In order to change the function of land from agricultural, forest etc to built-up area the analysis of the soil is required.	
Slovakia	✓	The Development plan contains a landscape ecological plan. Soil quality is also taken into account in this. The development plan displays value of soils and projects/highlights proposed interventions.	
Slovenia	✓	Environmental Impact Assessment (EIA) is a part of the regular spatial planning procedure at general (strategic) and detailed level, soils are one of the segment of the environment. The same criteria are used in National and municipal Spatial Plan procedures including water, air, agricultural land cultural heritage and human health etc Soil quality is usually taken into account in the context of agricultural land criteria, and the protection of agriculture land (and soils) is one of the most important criteria when preparing and evaluating land use plans.	
Spain	✓	Non-urbanizable areas can be identified, partly informed by soil quality factors.	
Switzerland	✓	Environmental factors are considered, especially where high value agricultural areas are affected. The 'Sectoral Plan FFF' is highlighted in this context as a key tool.	Requests that 'WFA' to refute or clarify?
Turkey	✓	The Terriorial plan is focused upon environmental considerations and the spatial strategy plans also considers this.	

Question 4 summary table			
Country	**Response provided**	**Identification of variation in land planning between different planning authorities, with explanations where relevant**	**Other issues**
Albania	×		Answer incomplete
Belgium (Flanders)	×		No response provided
Bulgaria	✓	Statutory regional and local documents exist with the aim of achieving sustainable and inclusive growth. Regional planning applies the integrated approach. National guidance is provided for the development of strategic planning documents for local and regional development and organizes the development of the National Strategy for Regional Development and regional development plans.	
Croatia	✓	The levels of spatial planning related to the state, county and local level have similar goals, but specific areas require specific measures.	
Estonia	✓	The legal framework of PA makes it possible for the preparation of plans to take fully into account relevant characteristics of land use	
Finland	✓	Laws and orders are same for all and local conditions can be taken into account within the limits of them.	
France	✓	Each competent authority is responsible for its SCOT, each city or EPCI competent authority for its PLU and each municipality responsible for the communal card are free to define their planning document. This leads to significant changes both in substance (expressed in PADDT) and form (as well as the régelement Patches). SCOT, and to a lesser extent the PLU and communal cards, are the expression of a political vision for the future of the territory.	Original content in French. Internet translation use.

FYROM	✓	Urban plans are produced in conformity with Bylaw Acts. The Ministry for Transport and Communications provide oversight for this process. Variation between municipalities does not therefore exist.	
Germany	✗		No response provided
Greece	✓	Variations do exist between the tiers of government because of the legal construct in place, but this is currently under review to address such discrepancies.	
Hungary	✓	For example municipalities, regions in their respective contexts: urban, peri-urban or rural. The variations can be in respect, for example, of application and enforcement of policy measures. If relevant, what explanations can you offer for such variations in land planning?Spatial plans have framework nature, there are no major differences.(See also Q7)	
Italy	✗		No response provided
Kosovo	✓	Control is held primarily at the local level. Controls are employed over the urban areas, but rural areas are not subject to the same processes and may be speculatively developed.	
Latvia	✓	Detailed land use planning is focused at the local level. A different form of government operates between urban and rural areas, but the planning approach is the same in both instances.	
Netherlands	✓	There has been deregulation and decentralisation over the last 10 years. A significant degree of variation therefore exists in the provinces. All of the municipalities within the provinces are required to produce structuurvisie but will have a different approach concerning urban growth depending upon their local context.	
		Planning occurs at three levels, national, regional and local. The overarching approach to planning at these levels is comparable, but the legal framework enables differences in policy between areas.	

Poland	✓		
Romania	✓	Land planning rules are the same for each level of land planning but local public authorities have autonomy to operate different approaches depending on territories characteristics. Only special urban planning documentations (for protected areas etc.) need the approval of the central public administration	
Slovakia	✓	All planning authorities must comply with the national building and planning act. However individual differences might be noticed.	
Slovenia	✓	Some differences in procedure and content between National Spatial Plans (national investment projects eg gas lines) and Municipal Spatial Plans (towns, villages and open landscape). Some indications that approaches should become more unified, with view that the procedure for adoption of National Spatial Plans is better, especially for public participation, and also that the regional level will increase its role in the field of spatial planning.	
Spain	✓	There are very different ways to define urban plans and set up strategies for urban growth and urban transformation.	
Switzerland	✓	Overarching National Strategy (Swiss Spatial Development Strategy), Concepts (e.g. landscapes) and Plans (e.g. Transportation, Energy)[34]. At the Cantonal level there is the Richtplanung (spatial development concept and plan), and at the Community level Nutzungsplanung (zoning), Baubewilligungsverfahren (construction permits).	
Turkey	✓	Municipalities are responsible for the areas in the municipality borders, whereas Special Provincial Administrations are responsible for the areas between municipality borders and province borders. In Metropolitan Municipalities, municipality is responsible for the whole area in the province borders.	

[34] http://www.are.admin.ch/sachplan/index.html?lang=de

Question 5 summary table

Country	Response provided	National level use of GIS and spatially explicit data	Regional / local level use of GIS and spatially explicit data	Areas of policy making that uses the data	Other
Albania	✓	?	✓	GIS used for planning in the National Forest Inventory in 2003. Arial photography used at the municipal level.	
Belgium (Flanders)	✗				No response provided
Bulgaria	✓	?	?	?	websites only
Croatia	✓	✓	✓	• protection and preservation of natural, historical and cultural features • capital infrastructure and buildings of importance • demographic trends • thematic studies such as water protection and mineral exploitation	
Estonia	✓	✓	?	• geoinformatics (management of spatial data, provision of spatial data services and coordination of geoinformation related activities) • capture and management of geodetic, geological and topographic data (organising the establishment of geodetic networks, organising geological mapping, mapping of the Estonian territory, providing national topographic data and maps to the society)	
Finland	✓	✓	✓	• impact assessment	
France	✓	✓	✓	• geographic information is necessary in the three mandatory documents input. However, the law does not require mapping to associate the final document. Map becomes illustrative only and cartographic expression is variable. • Under the PLU, geographic information is necessary, even essential especially for report presentation.	Use of GIS not widespread
FYROM	✓	✓	?	• None provided	institutions responsible for preparing plans are obliged to use GIS data – it is unclear at what level these institutions operate
Germany	✗				No response provided
Greece	✓	✓	✓	• electronic urban planning to facilitate the work of central and local authorities, for planners and for citizens	
Hungary		✓	✓	• Land use planning and spatial planning is based on spatially explicit data, provided by ministries responsible for sectors (sectoral zones). Spatial databases are essential for the delimitation of the different zones and land use categories, as well as in the assessment of territorial processes.	
Italy	✓	✗	✓	• preparation of the city planning • land planning and management	Many geographic information systems have been developed at regional and local level, to support planning but the fragmentation and low

					coordination between these new planning instruments is a relevant problem to solve.
Kosovo	✓	✓	✓ partial use	None provided	some municipalities use GIS very well whereas others do not use it at all
Latvia	✓	?	✓	The Rural Support Service provides information about the use or abandonment of agricultural land	
Netherlands	✓	✓	✓	• existing land uses are available at a high level of detail • commercial data regarding individual property (homes, shops and businesses) Spatial restrictions to development are readily available online, such as: • the location of Natura2000 areas • safety contours around industrial sites with hazardous materials • floodplains, etc. For strategic planning, for example: • demographic prognosis data is available at the municipal level.	All local plans in force (bestemmingsplan) are provided online (www.ruimtelijkeplannen.nl), as well as all the rules for plans at provincial and national level and the various vision documents (structuurvisies).
Poland	✓	✓	✓	• Transport • investments for flood protection • managing coastal areas • preparing environmental studies. In case of space (land use) management – it depends on the self-government potential. data is used in terms of: • environment • wildlife • landscape • monuments • cemeteries • protection of agricultural land and forestry; • protection of water, soil, etc. The data are used to control urban decisions, for example: • planning permissions • decisions on development conditions and land management • environmental decisions • coverage • public consultation processes.	The geo-portal for the infrastructure of spatial information is a central point of access to services, such as searching, browsing, downloading, conversion and includes services enabling launching of further services, with full range of thematic and territorial infrastructure.

Romania	✓	✓ but unclear on which levels	✓ but unclear on which levels	None provided	Spatial data and GIA methods are used for both policy making and also policy implementation activities. Urban planning documents are based on a cartographic support, but the preparation/delivery of documents is based on different software because there is no requirement for a standard method of analysis.
Slovakia	✓	✗	✗	None provided	The majority of land and urban planners do not work with spatially explicit data and geographical information analysis methods because to date these data have been hard to obtain.
Slovenia	✓	?	?	Mostly used in early spatial planning phases (analysis). The spatial data needed to prepare spatial plans are dispersed between different institutions responsible for individual part for management of the territory. The use of GIS analytical methods is a standard.	Numerous examples provided of databases used in national and municipality spatial plans procedures.
Spain	✓	? unclear	✓ partial use	Used for: • drafting of urbanization instruments • during phases of analysis • justification of the proposal; • presentation of the planning documents.	GIS is routinely used for zoning/territorial plans. However, in some regions different systematization standards are set by those drafting the plans and by the different public authorities' users.
Switzerland	✓	?	?	?	websites only
Turkey	✓	? unclear	✓	Used for spatial and network analyses	GIS analysis are used throughout all stages of the planning process. Work continues towards obtaining an inventory of national spatial data.

Question 6 summary table

Country	Response provided	Good practice examples of land planning systems that control urban sprawl	Other issues
Albania	✓	In Albania an example is the 'legalisation of urban areas' by the Agency for Legalisation, Urbanisation and Integration of Areas / Informal Constructions.	
Belgium (Flanders)	✘		No response provided
Bulgaria	✓	Bourgas city is presented as an example of best practice although it is unclear in the text how, and to what extent, this is considered best practice.	
Croatia	✓	Regional plans Urban networks as a form of cooperation in the region or between neighboring regions in which cities / municipalities act as partners	
Estonia	✘		
Finland	✓	Joint masterplans and letters of intent between the state and municipalities in an urban region on land use, housing and traffic issues (MAL) have recently been introduced for a comprehensive approach	
France	✓	Territorial Coherence Schemes (SCOT) have principles for regional balance, urban renewal, efficient land management, social diversity and the preservation of the environment. The law requires that the SCOT (as Local Urbanism Plan [PLU] and communal cards) must reduce space consumption (fight against urban sprawl), preserve spaces used for agricultural or forestry activities, balance the geographical distribution of trade and services, improve energy efficiency, reduce (and not just control) bonds travel, reduce greenhouse gas emissions, and enhance biodiversity conservation and ecosystems (including through preservation and restoration in good condition ecological continuity).	
FYROM	✓	Preparation of planning documents for establishment of economic zones as well as housing areas. The usage and protection of agricultural land is statutorily regulated and is under the responsibility of The Ministry of Agriculture, Forestry and Water Economy.	
Germany	✘		No response provided
Greece	✓	The Special Inspectorate for Building and Energy uses satellite photos of different periods to identify urban sprawl and land take, and penalise illegal acts.	
Hungary	✓	Two examples provided: • 4 special spatial planning zones where the designation of urban areas is strictly restricted for protection purposes (in terms of soil quality or natural assets). • Digital monitoring system, based on Google Earth, allowing for the assessment of needs and calculations for each settlement providing a better control of land take and urban sprawl	
Italy	✓	Introduction of different planning documents where a master plan is to be formed by two different documents, the structure plan, with the aims of setting out the general strategy and vision for the city, and the development plan to determine and identify development areas for a five year period.	
Kosovo	✓	There is no such example. Almost everywhere is the same.	
Latvia	✓	Local government sets restrictions to building in the local spatial plans that new dwelling houses can only be built within the village or town, not in rural areas. Also, when planning new villages, public consultation takes place.	

Netherlands	✓	Three examples provided: • Strategic planning of Amsterdam in the 1930s • National buffer zone policy • Restrictive retail policy	
Poland	✓	Although legislation on spatial development does not fully meet the current challenges to protect the cities from uncontrolled urban sprawl the Ministry for Regional Development is working on the review of current processes to promote good practices with the aim of finding organisational, planning and implementation activities to respond to problems like spatial chaos, wasteful and dynamic suburbanization, fragmented building development, technical and social degradation of cities and cultural landscapes, ecological systems destruction, and private investors interests not taking into account the common good. Good practice examples include: • limitation of conversion of agricultural and forest soils into other purposes • URBAN-SMS Soil Management Strategy project on the strategy for management of urban soils - the test city was Wroclaw.	
Romania	✓	there are no specific laws regarding the land take, urban sprawl and other similar activities	
Slovakia	✘		No response provided
Slovenia	✓	There is a long term tradition of spatial planning in which environmental assessment procedures and public participation are involved. Key phases in national spatial plan procedure include: – Preparation of different feasible variations of “spatial arrangements of national importance" (highways, power plants, power lines, electric grids, railways, roads, etc.); – Analyses and comparison of variations from different points of view – spatial development, environmental sustainability, functional and economic point of view, etc; – public hearing at the very beginning of the procedure (when all options are still open) and after analysis and comparison of variations; – Proposed solution has meet development needs and is acceptable from the environmental and, economical point of view as well as in the local community.	
Spain	✓	Use of a national land planning system that provides urban information in a homogenous and comparable way for entire national territory. Urban sustainability indicators can be obtained, applicable to urban policies, to avoid or minimize the urban sprawl effect	
Switzerland	✓		Only website provided
Turkey	✓	Preparation and implementation of Integrated Urban Development Strategy and Action Plan that aims to develop livable, healthy and secure cities. Within this action plan, many activities take place for controlling urban sprawl and land.	

Question 7 summary table

Country	Response provided	Policies for soil evaluation in land planning	Soil evaluation Mandatory/ Voluntary	Level of governance, key institutions, stakeholders	Other
Albania	✘				No response provided
Belgium (Flanders)	✓	Only for Soil contamination?	Mandatory if there is suspicion of soil contamination	OVAM (Public Waste Agency of Flanders) is responsible for the soil remediation management.	Legislation • Decree of soil remediation and protection - The purpose of the Soil decree is to remediate contaminated land in Flanders and to prevent new contamination. Anyone looking to transfer land must have a soil certificate
Bulgaria	✓	• National policies include targets and measures on Soil protection (Soil Act). • Soil monitoring is part of the national System for Environmental Monitoring. • Register of areas damaged soils		The Minister of Environment and Water, Ministry of Agriculture and Food, Minister of Health and Minister of Regional Development and Public Works carries out government policy on conservation, sustainable use and restoration of soil at the national level. Protection policy, sustainable use and restoration of soil takes place at the regional level by the regional governors and local - from mayors.	Legislation • Soils Act - regulates the social relations associated with soil and their functions and their sustainable use and long-term recovery as a component of the environment; • Regulation for determination and imposition of penalties for damage or pollution above acceptable norms; • Handbook for practical application of the conditions for maintaining the land in good agricultural and environmental state.
Croatia	✓	No policies and procedures for addressing soil evaluation as part of land planning	Voluntary	The soil evaluation depends on the priorities of the local and regional governance.	
Estonia	✘				No response provided

Finland	✓	No?	?	Planning area should be fit for the purpose it is intended	Response very synthetic and not clear
France	✓	• Urban planning must ensure the conservation of soil quality • Soil evaluation in the context of Environmental Impact Assessment	Not clear	Not clear	Response in French Legislation • Environmental code • Town Planning Code
FYROM	✓	Land Capability Classification. • Taking into account also soil quality, agricultural lands are classified in 8 classes.	Mandatory LCC	Soil evaluation is under responsibility of the National Agency for Real Estate Cadastre. Any Planning Programme involving agricultural land needs permission from the Ministry of Agriculture, Forestry and Water Economy.	Legislation • Law on Survey and Land Cadastre and its by-law acts, like the Regulation on the manner of cadastre classification of land. Law on Agricultural Land and in The Spatial Plan
Germany	✓	Yes, mainly in the Federal Soil Protection Act	Unclear	According to the Federal Soil Protection Act, soil functions have to be protected or restored. Federal Spatial Planning Act and some regulations for agricultural purpose take into account soil functions.	
Greece	✓	No?	Mandatory only geological studies	Several national institutions have prepared maps of soil characteristics to be used for different purposes	Response not clear
Hungary	✓	Soil evaluation is used for agricultural and forestry purposes and indirectly for land planning	Mandatory/	The key organization is the Land Administration Authority	
Italy	✓	There is not specific legislation/policies		Soil management are under authority of regions. At national level, some laws partially concern soil issue: - D. Lgs 152/06 (Soil contamination, EIA, SEA and Nitrates Directive); D. Lgs 99/92 (Management of Sewage sludge). At local level actions aimed at soil	The Italian Parliament is currently discussing a law proposal concerning land consumption/soil sealing.

		regarding soil evaluation as part of land planning.		protection are sometimes treated mainly within urban Plans, land use plans, etc.	
Kosovo	✓	Administrative Instruction (CPZ)	?	The CPZ(Construction Planning Zones) define the protection and also the direction in which the cities can be growing.	Very briefly response. It is not possible to know whether the legislation includes soil evaluation.
Latvia	✓	Soil evaluation is a part of old land planning in agricultural territories.		National regulation on the agricultural territories of national importance with the highest soil fertility. These territories are set in the local spatial plans according to the criteria set in national regulation including the soil quality. In those territories, several activities are restricted, mainly building.	The soil of agricultural lands evaluated in late 1970ties and the data not been updated since then. Now no soil evaluation is carried out in Latvia, but in the Land management law proposal the soil evaluation of agricultural and forest land should be carried out once in 20 year period. The first evaluation should be carried out until year 2020
Netherlands	✓	Unclear for soil evaluation there is only recommendations	Mandatory some aspect related to soil contamination	• Regulations or recommendations for ploughing in hilly areas to prevent erosion and for the use of heavy machinery on land to prevent soil compaction	Unclear level of governance
Poland	✓	Land capability classification (LCC) covers all agricultural and forest land	Mandatory (LCC)	Local level. The use of agricultural land of high production value (LCC class I-III) is possible but needs an approval from Minister of Agriculture and Rural Development.	Act of 3rd of February 1995 on the protection of agricultural and forest land. For non-agricultural purposes first land classified as wasteland can be used and in case of lack of such land, other kinds of land with the lowest production usefulness.
Romania	✓	Monitoring system of soil quality in agricultural lands, 8x8km grid, periodically updated	Mandatory (monitoring)	County (NUTS3). The National Institute for Pedological and Agrochemical Research supervises the monitoring process and the County Pedological and Agrochemical Studies Offices make the activity itself.	Frequency of update?
Slovakia	✓	Unclear	Mandatory	Every development plan must evaluate its impact on the soil. The “Land office” authority then approves this evaluation.	

Slovenia	✘				No response provided
Spain	✓	Land law provides classification based on land use	Mandatory land evaluation		Legislation • National Royal Decree 1492/2011 (Land Law) • RD 1942/2011 It is not clear if legislation requires soil evaluation.
Switzerland	✓	Land planning does not consider soil evaluation with exceptions of high quality arable lands.	?	The Swiss Federal Office for the Environment has begun to define a Swiss soil strategy, which will probably include policies and guidelines to include soil evaluation as part of land planning mechanism.	Opinion of the respondent
Turkey	✓	Agricultural land use plan (LUP)	?	Soil evaluation is under responsibility of DG- Agrarian Reform (DGAR), Ministry of Food, Agriculture and Livestock. DGAR is responsible to provide guidelines, frameworks and directives dealing with LUP. City governors are responsible to perform for agricultural land plan and project.	

Question 8a/8b summary table				
Country	**Response provided**	**Soil characteristic used for soil evaluation (Physical, Chemical, Biological)**	**Classification of soils according their economic value**	**Other**
Albania	✘			No response provided
Belgium (Flanders)	✓	Evaluation of physical, chemical and biological characteristics but only for Soil contamination		No response for question 8b
Bulgaria	✓	All major soil characteristics used in the assessment of soil quality. National Soil monitoring is organized on three levels: Level 1 – large scale. 16x16 km grid. 397 points, data on principal chemical parameters (pH, heavy metals, nitrogen, organic carbon etc.). 5 years frequency. Level 2 – regional scale soil degradation processes (erosion, acidification, salinization, sealing) Level 3 – local soil contamination	Agricultural land classified into 10 categories according their quality in terms of soil productivity, climate, topography, land technological qualities and restriction of land use. Land with the highest quality are those of the first and second category, as it gradually reduced to ten.	The categories are determined by the average quality score (average relative evaluation of specific soil and climatic conditions on the suitability of the land for the cultivation of a range of crops).
Croatia	✓	There are no prescribed soil characteristics and parameters regardless of the land use category. Some local and regional spatial plans include soil characteristics as condition on which are based spatial decision	No.	Soil quality assessment is based on old Pedological data (1960-1980)
Estonia	✘			No response provided
Finland	✓	Depending on land use. Mainly physical and chemical, biological data used when necessary.	No	
France	✘			No response provided

FYROM	✓	According to the Regulations, both natural data (physical, chemical and biological) and economic value are taken into account in the evaluation of the soil and its classification.	The economic value imply: location of the cadastre parcel (vicinity of populated places), access (connection with infrastructure), relief, climate etc.	The soil characteristics used in the soil evaluation are prescribed in the by-law acts of The Law on Survey and Land Cadastre
Germany	✓	•Soil contamination •Soil fertility •Archive of natural and cultural history •Filtering, buffering and substance-converting properties, and especially groundwater protection	Not on federal level. Some Federal States like Baden-Wuerttemberg, have an accounting system (Bodenpunkte) to compare different sites / soils for Spatial planning purposes.	
Greece	✓	In spatial planning, mainly physical characteristics. In urban planning, both physical and chemical. Biological data taken into consideration mostly for management plans (of protected areas, including green urban and peri-urban areas).	Yes, appropriate bodies are doing so using scientific criteria to this end.	It is not clear if legislation requires soil evaluation.
Hungary	✓	Mainly physical and chemical. Biological characteristic are considered too difficult to compare.	Yes, the agricultural soils are classified according their potential productivity	
Italy	✓	Mainly chemical and physical characteristics are used in agricultural sector to determine soil suitability evaluation. Several Italian Regions have realized Land Capability Classification and in some cases the LCC are used in local land planning.	There is not a classification of “soil” according to their economic value; land are usually classify in urban planning, according to their economic value. The only classification used to determine with highest/intermediate/lowest value of soils is Land Capability Classification.	
Kosovo	✓	Soil evaluation mainly based on classic physical characteristics.	The economic parameter for land evaluation are: •Fertility, class and texture of soil; •Distance from settlements and infrastructures; •Irrigation system •Land morphology.	
Latvia	✓	According the Regulations regarding Cadastral Assessment, the soil evaluation of agricultural land includes: 1) soil type; 2) mechanical content of soil; 3) cultivation level.	No	

Netherlands	✓	Mainly common chemical and physical parameters according to land use.	The economic land value is determined primarily by site characteristics (population, economic activities, transport options, flood protection and supply services). Soil quality values may play an economic role in agriculture in relation to land fertility.	
Poland	✓	The only criterion of soil evaluation in the spatial planning is its production value. Soil classes are based on soil taxation maps, soil agricultural maps and in certain cases on soil contamination.	Soil classes partly reflect economic value – in term of land crop production potential. The land value also depends on soil class	
Romania	✓	The soil evaluation take into account physical, chemical and biological characteristics of soils	For agriculture, there is a system to give scores for the soils taking into account the physical, chemical and geographical conditions and parameters in order to have good crop productions. For construction, the physical characteristics are more important and the economic value of the soil is in indirect relation with the cost effort for buildings.	The soil monitoring (evaluation) is mandatory and it is at the level of each county (NUTS3).
Slovakia	✓	Mainly physical and chemical characteristics	Yes, soils are categorizes as “Valued soil-ecological units" (quality and value of production-ecological potential of agricultural land). There are 9 categories. Category 1 is the most valuable, category 9 the least.	
Slovenia	✘			No response provided
Spain	✓	Cannot be defined	The economic value of soil depends, among other factors, on the location, their specific uses and exploitation regime.	Only cadastral evaluations
Switzerland	✓	In general no soil characteristics are taken into account. For the most suitable quality arable farmland chemical and physical characteristics of soils are considered.	There is no direct economic evaluation of soils. Soils are categorized according to their fertility and their ability to serve as good agricultural land.	Some work has started this year in the context of the definition of the Swiss soil strategy and in the framework of the Swiss National Research Programme 68 on Soils.
Turkey	✓	Standard physical and chemical parameters used in the soil evaluation	Not applicable	

Question 9 summary table

Country	Response	Soil quality assessment in the planning process	Soil function take in account (②Important, ①Indifferent,⓪Not)								Other
			Food/biomass production	Storage/filtering/	Carbon pool	Biological pool	Source raw	Physical platform	Natural/cultural archive	Other soil	
Albania	✘										No response provided
Belgium (Flanders)	✓	Only evaluation of soil contamination								*	* Soil thermal properties (to adapt to climate change in the cities)/geothermal properties
Bulgaria	✓	All agricultural land are classified into 10 Quality Categories	②	②	②	②	②	②	②		The categories are determined according to the productive capacity of the soil, climate, topography and technological qualities of the land, suitability for the production of various kinds of vegetation and restrictions on land use. Links to pages only in Bulgarian language.
Croatia	✓	No. Some local and regional spatial plans include soil characteristics as conditions on which are based spatial decisions	①	①	①	①	①	①	①		Soil quality assessment is based on old Pedological data (1960-1980)
Estonia	✘										No response provided
Finland	✓	Yes	②	②	②	②	②	②	②		According the Finnish response the importance of different functions varies whether it is town or rural area in consideration but all the functions have the same attention.
France	✘										No response provided

Latvia	✓	Agricultural soils evaluated in late 1970ties. New soil evaluation, for agricultural and forest land should be carried out until 2020		⓪	⓪	⓪	⓪	⓪	⓪	⓪		The soil functions are not evaluated in the planning process, only indirectly by taking into account the soil quality Soil evaluation include:1) soil type; 2) mechanical content of soil; 3) cultivation level (Cadastral Assessment Regulations)
Germany	✓	Yes		②	②	②	②	②	②	②	*	* Groundwater protection The joined governmental-federal-states-working group for soil protection (LABO) carried out a guidance document for better consideration of soil functions into environmental planning procedures
Greece	✓	Yes?		②	②	②	②	②	②	②		Planning based also on soil maps but it is not clear if Pedological studies are mandatory or not.
Hungary	✓			②	②	⓪	②	②	②	②		The carbon pool function belongs to the soil fertility and it is under the "food and biomass production
Italy	✓	No										
Kosovo	✓	Yes?		①	⓪	⓪	①	②	②	②		Soil evaluation seems to be related only to the cadastral value of land
FYROM	✓	?		②	⓪	②	②	②	⓪	②		Law on Survey and Land Cadastre
Netherlands	✓		City									The answers depend on the planned land use: city/ agriculture / nature. Unclear the classification used by respondent.
			Agricol.									
			Nature									
Poland	✓	No. Only soil class. Assessment of soil functions is not obligatory.		②	①	①	①	①	①	①		Soil classification partially reflects the soil economic value in term of crop productivity

Romania	✓	Mandatory County Soil monitoring	②	②	②	①	⓪	⓪	⓪		The response is referring to the ”Implementation of the Thematic Strategy for Soil Protection”
Slovakia	✓		①	②	⓪	②	②	①	②		
Slovenia	✘										No response provided
Spain	✘										No response provided
Switzerland	✓	In general, soil quality is not taken into account, but contamination is considered	⓪	②	⓪	⓪	⓪	⓪	⓪		According to the respondent Swiss Soil strategy will most probably be based on the EU soil function definitions as outlined in the EU soil thematic strategy and the document on the Threats to EU Soils. Currently, the Swiss Soil legal texts do not contain specific soil functions. These texts are based on the concept of soil fertility and soil threats.
Turkey	✓	Only in agricultural land use plan	②	②	⓪	①	⓪	①	①		

Question 10 summary table				
Country	**Response provided**	**Compensation of soil degradation**	**Subject in charge of compensation**	**Other**
Albania	✘			No response provided
Belgium (Flanders)	✓	Soil contamination must be remediated	When contaminated land is transferred prior to remediation, the new landowner can demand a financial security from the prior landowner for the soil remediation cost.	
Bulgaria	✓	Yes.	Use of agricultural land for non-agricultural purposes is subject to fee payment. Responsible for processes of soil degradation owes monetary compensations to landowner.	
Croatia	✓	Not specified by National legislative, depends on local and regional governance (Counties, cities)	In case of soil degradation (lose) due to construction, developer should pay the fee.	
Estonia	✘			No response provided
Finland	✓	There are no such obligations in law.		
France	✓	Yes, only for contaminated soils	Polluter pays	
FYROM	✓	No specific rules for compensation for soil degradation are provided in national laws.	The general policy of the Country in that context is that "the polluter pays"	
Germany	✓	Compensation or remediation procedures for soil sealing and soil contamination	Unclear, probably “polluter pays”	

Greece	✓	??	Damagers pay for soil degradation	Response not clear, just refers to coastal erosion.
Hungary	✓	Compensation will only occur if the degradation is not caused by the owner/tenant of the land via inappropriate use.	Polluter pays	
Italy	✓	Yes, only for contaminated soils	According to the regulation on contaminated sites (Legislative Decree n. 152 issued in 2006) risk-based remediation objectives for soil are developed according to the use of soil (actual and planned use) so that the quality is satisfactory (in terms of human health protection) for the planned use.	
Kosovo	✓	Not yet, but waiting to get it		
Latvia	✓	Yes	Polluter pays if the site is recognized to be contaminated Damagers are responsible for recultivation of degraded soils during mining and construction.	
Netherlands	✓	Only known for waterworks		e.g. Hedwige polder
Poland	✓	Yes, for agricultural land.	The owner of agricultural land is obliged to prevent soil degradation, particularly erosion and mass movement. The exclusion of agricultural land from agricoltural production is subject to fee payment, the fee amount depends on the soil quality class. The costs of exclusion of agricultural soil from production, due to industrial pollution are charged to plant owners.	In case of exclusion of high quality soil from production, an additional obligation may be imposed – to take off the humus (topsoil) and to use it to improve the usage value of agricultural land.
Romania	✓	Only for some aspect	Soil sealing: taxes for the loss of agricultural soils Soil contamination: polluter pays Soil erosion: no regulation	
Slovakia	✓	Yes	Soil degradation is compensated by developer	
Slovenia	✘			No response provided

Spain	✓	National laws establishes concrete rules for valuation and economic determination of environmental damages.	Soil contamination requires remediation but no compensation is foreseen.	Law 26/2007 on Environmental Responsibility Law 22/2011 on Waste and Contaminated Land
Switzerland	✓	Compensation is not required in general, only for sealing of agricultural land and for landscapes and natural objects of high value. The latter is independent of soil quality criteria.		
Turkey	✓	No information		

Question 11a summary table

Country	Response provided	Level of Legislation or regulation on contaminated sites	Risk based land management	Interlinkages between soil contamination and land planning	Other
Albania	✗	?	?	?	
Belgium (Flanders)	✓	NUTS2	✓	The land planning is considered as the soil contamination should not pose risk for destination type of the land (nature, agriculture, recreation, housing or industry).	Contaminated land is considered as a resource (Brownfield Decree)
Bulgaria	✓	NUTS0	✓	The land should be reclamated for its intended use	Different Ministers involved in according to land use
Croatia	✓	NUTS5	✗	The village should make plan on contaminated land	
Estonia	✗	?	?	?	
Finland	✓	?	✓	The contaminated site can be remediated for its present or future use with different remediation levels	
France	✓	NUTS0	✓	The information available on soil pollution is public and is taken into account in land planning documents during their development and revision	
FYROM	✓	✗	✗	Site contamination is not in land use planning although contamination is a main issue	
Germany	✓	NUTS0	✓	In land planning for the future use, no hazards to individuals or the general public should occur.	Contaminated land is considered as a resource by some regional or municipal government
Greece	✓	✗	✗	Site contamination is not considered a problem so far	

Hungary	✓	NUTS0	✓	During the planning phase there is a need to determine the site specific and risk based limit value	
Italy	✓	NUTS0	✓	The land should have satisfactory quality for its intended use (residential, commercial, agricultural)	
Kosovo	✓	✗	✗	Contamination is seen just as a problem	
Latvia	✓	NUTS0	✓	Contamination may cause a restriction in land use that local planners should consider	
Netherlands	✓	NUTS0	✓	Contamination influence the length of the planning process for land development. because of soil investigation and management. Contamination limits the number of land use options,	It is considered as a potential resource.
Poland	✓	NUTS0	✓	If contaminants exceeds the relevant threshold: • the soil will not be allowed to be assigned to the given land use • the plans on that land can be changed - to use the land for transport or industrial functions.	
Romania	✓	NUTS0	✓	The rehabilitation can be set according to the specific site according the planned use or at the lowest remedial target	
Slovakia	✗	?	?	?	No response provided
Slovenia	✗				
Spain	✓	NUTS0	✓	Contaminated soils should be remediated to values satisfactory for planned use	
Switzerland	✓	NUTS0	✓	Soil should be of satisfactory quality according to the "fit for purpose" principle.	The local authorities may encourage the re-use of derelict land, by special regulatory plans, funding, subsidies or restriction to unused land.
Turkey	✓	✗	✗	Site contamination is not in land use planning	

Question 11b summary table

Country	Response provided	Soil evaluation is needed?	Contamination status should be available to the public, to the buyer, registered in the Cadastre?	How contamination influence the change of use or land trading/sell	Other
Albania	✗	?	?		
Belgium (Flanders)	✓	✓	Inventories are available to the public	Agreements that stagger the soil remediation work and the costs can be settled	
Bulgaria	✓	✓	?	There is just a strong prevention aimed at limiting the damage and change of use of agricultural soils	
Croatia	✓	Cities and regions may decide	✗	The contamination should not be hazardous to the environment or remediation should be implemented	
Estonia	✗	?	?		
Finland	✓	✓	Available to the buyer	If the site is remediated for an intended use, a change of use may imply the necessity of assessing the remediation need. In updating land use plan, land restrictions should be considered.	
France	✗	✓	Inventories are available to the public		
FYROM	✓	✗	✗	Contamination influence land planning but there are no specific rules concerning change of use or trading/sale of contaminated lands	
Germany	✓	✓	Information is registered in Cadastre and is available to the public	Information of the contamination has to be included in land trading/sell	

Greece	✗	✗	✗	Contamination is not faced so far	
Hungary	✓	✓	If remediation takes more than 5 years, the information is registered in Real Estate (or Land) Registration Authority	There is not a specific rule	
Italy	✓	✓	Inventories at NUTS2, limitation of use registered in Cadastre	Trading/sale of contaminated land is regulated by private contracting and contamination issues are generally investigated during the due-diligence phase	
Kosovo	✓	✗	✗		
Latvia	✓	✓	Inventories exist and are available to the public and to the buyer	The owner or a user of contaminated land has a duty to notify the presence of contamination to the possible successors	
Netherlands	✓	✓	Inventories are available to the public	The sale of contaminated land may depend on arguments in negotiations which local authorities and practical considerations on responsibilities. Municipalities may ask the continuation fixed contributions from land owners who polluted in the past as part of land sale contracts.	
Poland	✗	?	?		
Romania	✓	✓	?	Investigation and evaluation of soil and subsoil is mandatory for owner or operator of (potential) polluting activities.	
Slovakia	✗	?	?		
Slovenia	✗				No response provided
Spain	✓	✓ (if a change in land use is planned)	Information registered in Cadastre and available to the public	Declaration of a soil as contaminated could stop the execution of building rights if they are incompatible with the remediation or recovery measures.	

Switzerland	✓	?	?	Construction on polluted land is allowed only if the site is not in need of remediation or their later remediation is not seriously hampered	
Turkey	✓	×	?		

Question 12 summary table

Country	Response provided	Examples of "no net land take"	National/local authorities take some concepts of "No net Land Take" into legislation/regulation	Other
Albania				
Belgium (Flanders)	✓	×	Good management of contaminated sites is seen as a policy aimed at "no net land take"	
Bulgaria	✓	×	The target will be tackled through integrated programmes for land use and territorial planning, sectoral policies as well as targeted policy instruments, such as protected area networks. The role of green infrastructure and site protection under Natura 2000 as well as the re-use of land are also important aspects of land resource management.	
Croatia	✓	×	×	
Estonia	×	×	?	
Finland	✓	×	×	
France	✓	✓	Yes, Code de l'urbanisme	
FYROM	✓	×	×	

Germany	✓	✓ www.lebenimdorf.de http://www.refina-info.de/projekte/anzeige.phtml?id=3107 http://www.flaechenhandel.de/ http://www.umweltdaten.de/publikationen/fpdf-l/4388.pdf	?	
Greece	✗	✗	?	
Hungary	✓	✗	The Darányi Ignác Plan, the implementation plan of the National Rural Development Strategy 2012-20 includes legislation tasks including stricter land protection rules with a view to restrictions on greenfield investments as priority tasks.	
Italy	✓	✓ http://www.reti.regione.lombardia.it/cs/Satellite?c=Redazionale_P&childpagename=DG_Reti%2FDetail&cid=1213356142225&packedargs=NoSlotForSitePlan%3Dtrue%26menu-to-render%3D1213356058469&pagename=DG_RSSWrapper	Good management and reuse of brownfield is seen as a policy aimed at “no net land take”	
Kosovo	✓	✗	✗	
Latvia	✓	✗	Local authorities may set restrictions aiming at “No net land take”	
Netherlands	✓	✗	✗	
Poland	✗	✗	?	

Romania	✓	✗ Development work requiring ecological compensation measures in accordance with national law on nature conservation are taxable to the eco-points.	Yes, the developer should follow the method of “eco-point”	
Slovakia	✗	✗	?	
Slovenia	✗			No response provided
Spain	✗	✗	?	
Switzerland	✓	✓ www.areale.ch www.friches.ch,	?	
Turkey	✓	✗	Yes, National legislation (T.C/5403, article 20 and 21)	

5 - Country Profile – Planning and Soils

Albania - Planning

Two pieces of legislation underpin the approach to planning and territorial development in Albania, namely Law 10119 (23/04/2009) for planning and Law 10 258 (25/03/2012) (as amended) for territorial planning. The key challenges that the planning system is trying to fix are rural poverty, uncontrolled demographic shifts, and a poor level of planning and management of environmental space. In addition, the economic crisis has created gaps in the implementation of environmental protection. As regards soil protection, criteria are used in planning decisions, but their application in practice is difficult.

Albania uses aerial photography at the municipal level in the legalisation of democratic movements and their territories. GIS was used for planning in the National Forest Inventory in 2003.

Albania – Soils

No input

Belgium (Flanders) – Planning

Respondents did not identify land planning instruments at any levels of governance. No specific challenges were identified but it was acknowledged that land planning should respond to societal needs, be inclusive and be cost and time efficient. Despite the economic crisis, environmental criteria remain important but the balancing of priorities may depend on the specific project, the project manager and the wider team. Some aspects of the environment need to be better understood, such as the role of ecosystem services. No further information was supplied on the land planning system.

Belgium (Flanders) - Soils

In Flanders there is a decree in force on soil remediation and protection with the purpose to remediate contaminated land and to prevent new contamination. Soil evaluation is mandatory when previous land uses may have caused soil contamination. A risk based approach determines the need to carry out site remediation according to the land use (nature, agriculture, recreation, housing and industry). In this way, land planning is taken into account and soil quality is safeguarded for future use. In the planning process also thermal/geothermal properties of soil are considered.
Compensation measures are set solely for contamination in the form of a financial security from the old to the new land owner for the remediation cost of the soil. Soil is considered as a resource and there is a specific legislation, the Brownfield decree, that promotes the reindustrialization of old industrial area (contaminated or not) in order to conserve Greenfield sites. Soil remediation and associated costs can be paid in installments o be more sustainable for the investing companies. There are no examples of "no net land take" but as a good practice, OVAM seeks to integrate its decontamination activities into broader redevelopment projects, ensuring the creation of significant added value. With appropriate communication between l parties, a transfer of 'used land' can be guaranteed, and net land take avoided.

Bulgaria - Planning

There is a strong commitment towards reducing inter and intra-regional disparities in Bulgaria in order to promote balanced forms of development. A 'National Strategic Reference Framework' provides the context against which local action takes place. In terms of challenges, the country is suffering from population loss from less-developed areas, placing pressure on the delivery of key services and contributing to rural poverty. Population growth is occurring around key cities, leading to urban sprawl and significant inter and intra-regional disparities. Furthermore, the economic crisis is accentuating regional disparities and territorial distribution of the population. Growth, population and economic growth is being directed to Sofia and the six other major cities of the country.

In Bulgaria, environmental and territorial conditions are an important feature of regional land use planning, and are integrated into the strategic planning process. This provides the basis for the subsequent planning decisions. Statutory regional and local documents exist with the aim of achieving sustainable and inclusive growth. Regional planning applies an integrated approach. National guidance is provided for the development of strategic planning documents at local and regional levels and assists the development of the National Strategy for Regional Development and regional development plans.

Land use planning is based on spatially explicit data. GIA methods are used in the field of land registry and regional registration. In the field of spatial planning five different government departments use the data depending on whether it is for spatial planning, agriculture or the environment.

Bulgaria - Soils

Responsibility for soil policy (conservation, sustainable use and restoration) is shared between four different Ministers at national level, while implementation takes place at local level, from region to municipalities. National monitoring of soil and a national register of damaged soil is in place. Soil evaluation is organized in three observation levels: 1. large scale monitoring that provides data on nine heavy metals, organic pollutants and other soil characteristic; 2. regional manifestation of degradation that take into account acidification, salinisation, erosion and soil sealing; 3. local soil contamination, a catalog of areas with contaminated soil. Agricultural land in Bulgaria is classified into ten categories according to the productive capacity of the soil, climate, topography and technological qualities of the land, suitability for the production of various kinds of vegetation and restrictions on land use. These scores may influence also the land value.
The sanctions imposed on those responsible for soil degradation could be a monetary compensation to the landowner (if not the same person) or a fine. A fee should be paid in case of use of agricultural land for non-agricultural purposes (amount depends on the quality of the soil, the category of the place and the possibilities for irrigation). The evaluations cited above are conducted by public authorities or qualified licensed assessors. Other compensation measures are given to farmers to encourage them to implement practices that are environmentally friendly. The legislation in force differentiates between historical contamination (for which the government is liable) and new contamination (for which the

polluter is liable). Legally binding sanctions and restrictions can be imposed if the ecological functions of agricultural soils are degraded. The “no net land take” concept is an objective to be achieved involving many stakeholders (transport, energy, mining, agriculture and forestry) and through an efficient use of resources, implementation of green infrastructure and reuse of land.

Croatia - Planning

In Croatia, instruments of spatial land planning include land use plans, zoning information systems and reports about the condition of the area being planned. A national strategy provides the context for spatial land plans that define the meaningful organisation and use of space, and include measures and guidelines for the planning and protection of the state, counties, cities and municipalities. Key challenges for the country include the loss of agricultural land through development. Some of this development is illegal, particularly at the urban edge, along key roads and in coastal locations. Policy exists to counter these issues but there are barriers to implementation. A variety of measures are in place to protect high value agricultural land from inappropriate development. This includes the use of restrictive and creative laws and policy to enable protection. However, the economic crisis has impacted on planning and development activity, particularly in relation to the levels of confidence held by key actors and the challenges associated with the delivery of necessary infrastructure.

In **Croatia** the state, county and local levels have similar goals for spatial planning, but specific areas require specific measures and the framework allows for this to occur. There is an established information system for the State Physical Planning (ISPU). Extensive research has been conducted in order to create a professional and scientific basis for monitoring the situation, optimum use of space in terms of sustainable development and the realisation of complex economic and infrastructure systems of importance to the State.

Croatia - Soils

There is not national legislation on soil policy in Croatia. Soil evaluation is the responsibility of local authorities, such as county and municipalities. This evaluation is voluntary and, where practiced, takes into account land use categories to which the economic value, and sometimes the pedological characteristics are indirectly associated. The key soil functions are carbon pool, biological pool and archive for natural and cultural heritage.
Sanctions and compensation measures are implemented by local authorities. The polluter/owner of the area is liable for a fee for loss of soil function in the case of construction and remediation of the contaminated land if this contamination is hazardous to the environment. The method used to assess environmental hazard is the Environmental Impact Assessment and is applied as a precondition for issuing the construction permission. The counties and the municipalities may establish the level of the fee payable according to a fixed sum per square meters built. There are no examples of avoiding additional land take in Croatia.

Estonia - Planning

The Planning Act (PA) regulates relations between the state, local government and other persons in the preparation of plans in Estonia. Four different types of plan (of increasing detail) are identified (national, county, city/municipal and detailed). The legal framework of the Planning Act makes it possible for the preparation of plans to take fully into account relevant characteristics of land use, including urban, peri-urban or rural, density of settlement, other relevant needs and objectives.

Some land is used too intensively while some is being under-used. Generally, there have been losses of agricultural land which has led to urban sprawl accelerating near larger cities and along major routes Development is also occurring in coastal areas. Environmental criteria remain important but difficulties are arising from the growing involvement of investors and developers in plan-making activities, with the suggestion that their influence is having an over-bearing influence on the shape and form development. Estonia utilises a Strategic Environmental Impact Assessment (SEIA) process to consider environmental protection in the land use planning process. This takes a broader view on the environment than just the natural environment, i.e. impact is assessed from the aspects of natural, social, economic and cultural environment. Soil quality is therefore one factor, but not the sole basis for decision making.

The Estonian Land Board is a government agency that participates actively in the development and implementation of national land policy and provides the society with up-to-date land-related information using spatially explicit data and GIA methods.

Estonia – Soils

No input

Finland - Planning

The Land Use and Building Act 2000 is defined as the principal piece of legislation which sets the framework for plan making across Finland. National land-use guidelines set out the broad goals of policy which then have to be reflected through regional, local and detailed plans. Regional plans cover the same geographical areas as the regional councils but greater flexibility exists with respect to the coverage of local and detailed master plans. Laws and orders for land use planning are same for all but local conditions can be taken into account within the limits of them

The concentration of urban growth in larger cities, particularly in the Helsinki Metropolitan Area, is posing a significant issue for policy makers. Increased mobility and migration have begun to influence the type of place property holders are looking towards. Space per inhabitant remains high. Environmental criteria remain important but awareness of them needs to be improved. There is a need for further information about the clean-up costs associated with contaminated land. In Finland during the planning process various criteria must be taken into account. Impact assessment is a statutory procedure implemented in the statutory land use planning context, in which the environmental, urban, economic, social, cultural and other impacts are considered. The geotechnical and chemical quality of soils is always taken onto account and considered in this process.

Spatial data is used in Finland for preparing land use plans at all planning levels as well as in impact assessment.

Finland – Soils

At all levels of land use planning (state, region, municipality),, the area under consideration should be “fit for purpose” according to geotechnical properties, adequate handling of drainage waters, good chemical quality, etc. The key characteristics used for soil classification are physical and chemical, but according to the nature of proposed the land use biological, landscape, cultural and natural heritage values can also be considered. Economic value is not taken into account. In general all soil functions are important but vary according to whether located in an urban or rural setting.
There is no compensation for soil degradation. Contaminated sites are considered as a resource only if located in a central area and stakeholder interest in changing its current use. The polluter is required to remediate a site if contaminated according to a site specific risk based approach. In trading/renting a polluted site, a declaration of the kind of activity that has previously been carried out on the site and the kind of pollution that may have occurred is necessary, otherwise the buyer has the right to demand that the agreement be cancelled, that the price be lowered or that the seller covers the damages. In this way, the taxpayers are not required to invest money to protect so-called “innocent buyers” as is done in other countries.
Sites reclaimed after industrial use and then redeveloped for other uses, require an additional evaluation through a new risk assessment. There are, to date, no examples of the “no net land take” principle.

France - Planning

A variety of planning instruments exist for a range of spatial scales. Two of the most significant include the strategically focused SCOT plans and the PLU plans that are produced at the scale of a municipality. The plan making authority preparing these two plans have to set out their intentions to develop and manage their territory in accordance with the principles of sustainable development. They need to set out policy relating to housing, transport and travel, retail, infrastructure, economic development, tourism and culture, and the protection and management of areas of nature conservation value, agriculture and forestry and landscape quality. They also need to explain how they will fight against urban sprawl, and the preservation and restoration of ecological ecosystems. Each competent authority is responsible for its SCOT, each city or EPCI competent authority for its PLU and each municipality responsible for the communal card are free to define their planning document. This leads to significant changes both in substance (expressed in PADDT) and form (as well as the régelement patches). SCOT, and to a lesser extent the PLU and communal cards, are the expression of a political vision for the future of the territory

In France the Laws Grenelle 1 and 2 set environmental objectives to be considered by the land use planning process. This includes greenhouse emissions, energy efficiency, clean and safe energy production from renewable sources, quality of air, water and soil, restoration and protection of biodiversity, notably through the restoration of natural areas, forestry and ecological continuity with a "geographically balanced" distribution and space-efficient employment, housing, trade and services and rural and urban

Land use planning makes extensive use of geographic information. However, the use of geomatics and GIS is not widespread. Some consultants will stick to the use of tools desktop publishing. Regarding the SCOT, geographic information is necessary in the three mandatory documents input. However, the law does not require mapping to associate the final document. Map becomes illustrative only and cartographic expression is variable. Under the PLU, geographic information is necessary, even essential especially for presentation of reports that consist of several elements. The graphic element of the document divides the territory of the commune in several areas, such as zoning plan.

France - Soils

There is no soil protection legislation at national level. However the Code de l'Urbanisme provides that land use planning at different levels, in accordance with the objectives of sustainable development, should preserve the quality of the soil and subsoil and maintain ecological continuity. Projects, which by their nature, size or location are likely to have significant effects on the environment or human health must be preceded by an impact assessment, including, in particular, an analysis of the initial state of the area and the environment likely to be affected by the project, a study on soil. The project should take into account the significant unavoidable negative effects and set out measures for mitigation and compensation where possible.
The Environmental Code provides that, in case of soil pollution or risk of pollution of the soil, statutory authorities may, after due notice, automatically ensure the necessary works at the expense of the responsible polluter. It may also require the polluter to deposit a guarantee,

corresponding to the estimated cost of intervention, to be repaid at the end of the work. Information on the risks of soil pollution is made public and is readily available. This information is taken into account in land planning documents during their preparation and revision. For remote industrial sites, located in an urban area, the future use is decided after consultation between the developer, the site owner and the community with the aim to provide a new use consistent with the surroundings. There are no specific examples of "no net land take" but several articles on the Code de l'Urbanisme address the issue of soil consumption.

FYROM - Planning

There is a law on Spatial and Urban Planning but national responsibilities are split between two national departments. There is a national plan and a series of other local (and sub-regional) plans but there are no regional plans. Urban plans are used to balance different economic and social pressures. They are produced in conformity with Bylaw Acts. The Ministry for Transport and Communications provide oversight for this process. Variation between municipalities does not therefore exist.

Environmental protection is bounded by legislation. Strategic Environmental Assessments are used and the land quality (soil characteristics) are specifically subject of elaboration in the SEA Report.

The institutions responsible for preparing plans are legally obliged to use GIS data in the process, which is held on a database by the governmental institution the Agency for Real Estate Cadastre. Legal regulations explicitly stipulate the kind of data that should be used in plan preparation.

FYROM - Soils

There is national legislation on soil governance that is under Cadastral Agency. Soil evaluation is mandatory and strongly influences land use planning. The procedure for transforming agricultural land into construction land must have the permission from the Ministry of Agriculture. and an obligation for paying certain amount of money as compensation are respectively used for improvement of the quality of other land with the equal area. The agricultural soil is classified according to the cadastre cultures. Economic value is calculated on the basis of location, access and climate and is taken into account for land classification.
Soil is strongly regulated; however, there are no specific rules for compensation for soil degradation. The policy follows "the polluter pays principle", which means that the polluter shall compensate the costs or complete a series of actions to restore the environment to its previous condition. The contaminated land is not taken into account in land planning documents and there are no specific rules concerning change of use or trading/sale of contaminated lands. However, in some ways, contamination can be addressed during land planning: when the Government sells some industrial capacity on the contaminated land it prescribes, in the sale-contract, the terms for remediation by the new buyer. There are no examples of “no net land take” practices currently.

Germany - Planning

The Federal Spatial Planning Act (Raumordnungsgesetz, ROG) regulates the aims, the instruments and the procedures of spatial planning. The ROG has goals relating to the protection of soils and the prevention of sprawl but other goals can be used against them (for instance those that encourage housing growth in the periphery). Local planning is governed by a Federal Building Code. No further information was supplied by the German respondent.

Germany - Soils

There is national legislation on soil protection designed to prevent harmful changes to the soil and, in addition other legislation, takes into account specific soil functions. There are different soil evaluations for different issues (contamination, fertility, groundwater protection) that consider different criteria. Economic value, with some exceptions, is not generally used to classify soils. All soil functions recorded are important, but groundwater protection is considered as a priority.

Compensation measures are required for soil sealing in spatial and environmental planning. In the case of harmful changes to soil functions (e.g. contamination, erosion) which are potentially hazardous to individuals or the general public, there is need for remediation, prevention or reduction of the spread of pollutants. Brownfields can be considered as a potential resource at some municipal and regional levels. Information on soil contamination must be included in the cadastral register and in the contract of purchase information. The former owner (or occupant) is liable for the prevention of hazards. There are several examples of “no net land take”.

Greece - Planning

In Greece, planning is organised around two pieces of legislation. The first focuses on national and regional issues, the other on (local) urban planning. There is a single national planning framework, 12 regional plans, and five sector strategies (including on renewable energy and aquaculture). Local plans also exist but the form of these is subject to review. Variations do exist in land planning between the tiers of government because of the legal construct in place, but this is currently under review to address such discrepancies.

The planning system is accompanied by two Presidential Decrees. No specific challenges were outlined by respondents, but there is a push for greater clarity and approval in plans. There is also a need to promote investment and economic development in parallel with respecting the environment. Environmental criteria remain important but the economic crisis is creating considerable pressure to develop. However the government continues to emphasise the need for taking a sustainable approach to development. Strategic Environmental Assessment and Environmental Impact Assessment are used in the planning process to assess impacts. Soil quality and appropriateness of ground conditions are elements to be taken into account in the context of urban studies for specific local urban plans, when geological studies are carried out.

Plans that have been prepared in Greece during the last few years have taken into consideration spatial data and methods. Furthermore, a project on electronic urban planning is on its way, to facilitate the work of central and local authorities, for planners and for citizens.

Greece – Soils

There is no national legislation on soil policy. However, e several institutions and research institutes have developed maps of soil characteristics to be used for different purposes such as the limitation of desertification, agriculture purposes, and, of course, land planning. More detailed geological studies are mandatory in the context of local urban plans. In spatial planning, physical characteristics are most important while in urban planning; physical, chemical and biological data are considered typically for management plans (of protected areas, including green urban and peri-urban areas). Soil is classified also according to its economic value. The evaluation is performed by appropriate bodies using scientific criteria. Soil functions that are considered important are environmental interaction, biological pool, source of raw materials, physical platform for humans and landscape, and archive for natural and cultural heritage.
Compensation measures have been sought to address the problem of coastal erosion. However, the responsible Ministries have eschewed responsibility for the mistakes of some developers and citizens, have insufficient funds and have not satisfied such requests so far. Soil contamination is not considered as a priority and the country has not addressed this issue so far.

Hungary – Planning

Land planning is divided into two parts: territorial and settlement planning. Territorial planning includes regional development and spatial planning. The main objective of spatial planning in Hungary is to evolve a spatial structure matching the social, economic and environmental objectives of the country and create suitable conditions for sustainable spatial development at the same time. On the top of the hierarchy of land plans is Act No. 26/ 2003 on the National Spatial Plan (NSP) which lays down the national regulations for land use and the spatial framework of spatial planning to ensure a balanced regional development. It also creates a framework for regional, county level and local regulations. The National Spatial Plan includes the Plan of National Spatial Structure and national, county-level zones and all elements are regulated by related policy regulations. The Plan of National Spatial Structure comprises land use categories, national technical infrastructure networks and individual technical facilities in scale 1:500 000. It determines the spatial structure of countries and high priority regions (Lake Balaton Special Resort District Area, Agglomeration of Budapest) including the location of infrastructure networks. It aims to harmonise land-use among Hungary's settlements and regions of different features and to develop an infrastructure network in accordance with the sectoral concepts. Spatial structure defines basic physical structure, disclosing uncontrolled development and unnecessary soil sealing. County level spatial plans are elaborated in accordance with the goal of National Spatial Plan. County level spatial plans allow the consideration of regional and local interests and introduce restrictions during the preparation of settlement plans. Thus these can prevent the causeless designation of residential, economic, and recreation areas on valuable non built-up areas (high quality productive land, valuable natural areas, etc.).

Hungary - Soils

Responsibility for soil policy (Protection of productive land, Real Estate Registration) is at national level, while implementation of land planning takes place at municipal level, with the Land administration authority participating as stakeholder. A detailed classification of soil (covering approximately 1 million hectares nationwide) through land suitability methodology is in place since 2008. The rankings of the similar soil types were implemented according to their production capacity. In soil evaluation for agricultural purposes, soils are classified into soil fertility classes (1-8). The soil fertility class aggregates many factors, especially physical and chemical ones. Other classification regards high quality arable land and forestry. Monetary compensation for any soil degradation will only occur if the degradation is not caused by the owner/tenant of the land via inappropriate use. Otherwise the polluter pays principle applies following the implementation of the Environmental Liability Directive (2004/35/CE). Productive land may only be used for other (than agricultural or forestry) purposes in exceptional cases and would need a distinct authorization process prior to all other (e.g. construction) authorizations. When the site is changed back from e,g, industrial use to use for agriculture or forestry, the user of the land is obliged to restore the land to make it suitable for agricultural or forestry use. A risk-based land management approach is fully applied, and remediation lasting more than five years should be recorded in the National Cadastre.

The “no net land take” concept is embedded in the Rural Development strategy as general objective; however the government may take individual decisions in the case of investments of exceptional size or/and priority for country development.

Italy - Planning

In Italy, the key piece of legislation is defined as the Urbanistic Law, n° 1150 of 1942. Instruments are used to set the principles and expectations of the planning system. A series of plans exist at the regional/sub-regional and provincial/local scales. Urban development is regulated by municipal administrations, and is determined by the regulations set out in the PRG (Piano Regolatore Generale). Challenges for the planning system include dealing with the continuing pressure of urban sprawl, despite a slowdown in population growth; intensive agricultural practices, the over-concentration of the population to certain areas (such as coastal areas), and climate change and the associated effects on land-use/cover. Soil degradation is occurring in many areas which, in some cases, have generated irreversible effects (or impacts that may be difficult to overcome given timing and the availability of finance). This has arisen from population growth, the impact of climate change and changing land-uses.

In Italy a variety of Legislative Decrees exist to incorporate environmental criteria into land use planning, including Legislative Decree 152/06 which is focused on mitigating hydrogeological risk, combating desertification, water resources management and protecting the soil from pollution, but it is of note that there is still a lack of a national legislation giving clear target on limiting land take and consumption

Recent changes through the “regionalisation process” have resulted in spatial planning and GIS being characterised by fragmentation among the national, regional and local levels, however regional guide specifications are strongly oriented towards the implementation of GIS for land planning and management.

Italy - Soils

There is not national legislation on soil policy but measures to counter several soil issues such as contamination, use of pesticides are in force. Soil management a competence of the regions and local authorities but soil is not assessed from the perspective of of land use planning. Some soil evaluations exist with the purpose to assess its suitability to produce common cultivated crops through USDA methodology (Land Capability Classification). However, this does not take into account the economic value.

Compensation measures are payable if the soil quality is not satisfactory, in terms of human health protection, by the polluter/landowner. The methods used to assess soil quality are risk assessment for industrial and commercial use and specific protocols including vegetables and plant uptake for agricultural use. Those evaluations are recorded in the cadastre and must be updated if the land use changes. Trading/sale of contaminated land is regulated by private contracting and contamination issues are generally investigated during the due-diligence phase trying to assess the reclamation costs. An example of avoiding additional land take exist in the Region of Lombardy, where information on brownfields is collected and stored in a public database to promote reindustrialization.

Kosovo - Planning

Two levels of planning exist in Kosovo. The national tier is concerned with policy development while the local tier is concerned with the control and use of development. No specific issues were identified but there is a wish to make greater use of GIS in plan making and to make planning processes more open and inclusive. Authorities are also keen to improve the mechanisms by which plans can be implemented. Control in land planning is held primarily at the local level for land use planning purposes. Controls are employed over the urban areas, but rural areas are not subject to the same processes and may be speculatively developed.

Appropriate measures exist to ensure that environmental criteria are appropriately embedded in plan-making and project planning through the use of Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA). However, there may be variability in the implementation of this legislation given that some SEAs are prepared by those who prepare the plan. Some plans are not subject to SEA, such as the national spatial plan. Some assessments were felt to occur too late in the process to make a difference in content/decision making. The Nature Law, Environmental law, Water, Agricultural land Law and its administrative instructs provide the restrictions to appropriately manage new development. Soil is graded and classified with classes 1-4 given protection but significantly it is not taken into consideration as it should in all cases and as the law on soil requires.

GIS and geographical data are used in Kosovo to produce spatial plans at the national level, while this is only partially used at the local level: some municipalities use GIS very well whereas others do not use it at all to prepare their municipal or urban development plans.

Kosovo - Soils

There is no national legislation on soil policy but an administrative directive that defines the nature and scope of urban growth and the soil protection. Physical characteristics (soil type, texture, average rainfall, etc.) are used to evaluate the soil. There are 40 professionals that certify the economic value of land according to different criteria: e.g. physical characteristic of soils, distance to infrastructure, presence of irrigation systems. The most important soil functions considered include: source of raw materials, physical platform for humans and landscape, archive for natural and cultural heritage.
Compensation measures are not applied. Soil contamination is considered as a problem and not as a resource and there are no specific rules for trading or renting contaminated sites. No examples of “no net land take” measures have been provided.

Latvia - Planning

A 'Sustainable Development Strategy' and 'National Development Plan' provide the context against which regional and local plans are prepared. Detailed land use planning is focused at the local level. A different form of government operates between urban and rural areas, but the planning approach is the same in both instances. Local planning documents include a mix of strategy and site-specific direction. Key challenges include low population density in rural areas and an outflow of rural residents to cities and destinations abroad. There is also high unemployment, poor infrastructure and limited educational choice in rural areas.

Environmental criteria are taken into account in planning decision-making through Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) despite the economic crisis. However, strategies for protecting the environment are dependent on the type of policies and land-designations included through local plans. While there are no strict regulations of exact environmental criteria that are used to evaluate the local spatial plan in SEA, most of local governments have adopted local regulations that building is allowed only in villages or in the territories with low soil fertility. There are also designated agricultural territories of national importance with the highest soil fertility. These territories are the object of national regulation. In these territories building is restricted, except some infrastructure etc.

Local spatial plans in Latvia are based on topographic information. Most cities of national importance use GIA methods, but it is up to local governments to decide.

Latvia – Soils

Soil evaluation is part of land use planning in agricultural areas. The areas with highest soil fertility are protected at national level restricting activities such as buildings. The next Land Management law now in discussion, will require that soil evaluations of agricultural and forest area will be carried out every 20 years. The soil characteristics considered in quality evaluation of agricultural land includes soil type, texture and kind of cultivation (arable land, perennial crops, meadow). Economic value is not taken into account.
Compensation measures in case of contamination follow the polluter pays principle, while if soil degradation is the result of construction or extraction of raw materials, the owner can restore the soil function by, for example, : preparing for use in agriculture or forestry, creating a water body, preparing a recreational area. There is a national registry of contaminated sites and restrictions that these impose should be considered when developing local spatial plans, taking into account the level of danger of polluting substances, the potential effect on health, the environmental quality and the necessity to take remediation measures in the future. In trading/selling contaminated land, the owner or the user has to notify the possible successors its liabilities and duties with regards to the contamination. Information on the preliminary assessment of polluted and potentially polluted sites is freely available to the public. There are no "net land take" examples reported, the competence is up to local governments.

Netherlands - Planning

The Netherlands has a network of local, and in some cases very detailed, set of zoning plans that carry legal rights to development (which are realised through the issuing of permits). Some of these plans are prepared by the national government for infrastructure projects. Local zoning plans have to respond to ordinances that set out basic parameters for development. In addition to the zooming plans, all three government tiers (national, provincial and municipal) are required to prepare structural or strategic statements for their area. There has been deregulation and decentralisation over the last 10 years in land use planning. A significant degree of variation therefore exists in the provinces. All of the municipalities within the provinces are required to produce structuurvisie but will have a different approach concerning urban growth depending upon their local context. In terms of planning challenges there is uncertainty over future population projections, with some areas facing possible population decline. Over-optimistic predictions for business space in the past have led to an over-supply in certain types of accommodation which requires a planning response. Climate change and the associated rises in sea-level will have an impact on planning and development, as will technological developments such as the growth in electric car sales.

Environmental criteria remain important in Dutch planning despite the economic crisis; the EU has a very clear and extensive system of legislation through Strategic Environmental Assessment and Environmental Impact Assessment that is effectively implemented. Previously aspects of EU legislation were ‘gold-plated’ so that Dutch policies would exceed EU standards. This is being reviewed via the Environment and Planning Act (Ow) that is replacing all national environmental legislation and methods with a system which is based on the European directives. Questions exist as to whether local government will be allowed to impose higher standards. SEA or EIA are used depending upon the scale of the project, this includes consideration of soil quality. An Omgevingsvergunning, a form of permit, is applied for and this checks all the various environmental aspects.

In the Netherlands a wide variety of spatial data is available at all levels for land use planning. Existing land uses are also available at a high level of detail, and commercial data regarding individual property is also available. All kinds of data on spatial restrictions to development are readily available online, this allows prospective developers to see what kinds of rules apply to a particular area.

Netherlands – Soils

The initiator of soil works and building activities is obliged to obtain a 'clean soil statement' from the local authorities on the basis of data from an independent survey. A distinction is made between light or serious contamination and it can be modified according to specific background values or regional policy. Soil reallocation can be restricted in some municipalities. There are different soil evaluations (and rules) for different issues (unexploded bomb, agricultural activities, heavy machinery, and control of groundwater levels, building activities). The characteristics assessed in the soil evaluation are different according to the aim of the evaluation (fit for agricultural use, fit for other land use, groundwater storage). The economic value is not considered in soil classification although

soil characteristics may influence its value for that specific use. The importance of soil functions varies according to planned land use.

Compensation measures in monetary form are applied just for waterworks. Contaminated land is considered as a potential resource, even under the “fit for purpose” principle, but this is a potential problem as it limits the number of land use options, it increases future financial risks and it may lead to unbalanced city development. Trading/sale of contaminated land is a complex matter and the most important aspects to address are unjustified enrichment, innocent users or buyers, displacement effects on neighboring land, financial strength of the owner, and the main pollution timescale. There are not any “no net land take” examples. At present, the primary concern of the planning system is to promote development as the economic crisis has brought urbanization to a virtual standstill.

Poland - Planning

Land use planning occurs at three levels, national, regional and local. The overarching approach to planning at these levels is comparable, but the legal framework enables differences in policy between areas. The overarching national spatial plan, the National Spatial Development Concept 2030, was adopted in 2011. Regional and local plans build on this context by providing increasing levels of detail. The Spatial Planning and Land Development Act of 2003 sets out the basic principles for the separate planning documents at each tier. Other legislation concerns the management of the natural environment, Environmental Impact Assessment (EIA) and so on. No specific challenges for the planning system are identified but effective spatial management determines the factors of socio-economic transformation and the mechanisms of spatial development.

Environmental criteria are sufficiently protected through Strategic Environmental Assessment (SEA) and EIA but there is a need for greater conformity and complementarity between local spatial development plans and those plans and strategies for the protection of natura 2000 areas. Protecting these habitats has a major role to play in protecting soil. To help promote this greater consistency, there is a push to get a broader range of stakeholders involved in policy and plan development. EIA are used as the basis for assessment. In the decision-making process certain criteria are taken into account, including those related to environmental factors. The soil quality is the basis for taking decisions on the re-use of post-industrial land (and similar) to be included in the urban area and decisions on agricultural functions provide protection in the rural areas.

Spatial planning in Poland uses geographic databases to control urban decisions (e.g. planning permissions, and land management, environmental decisions). Usage differs depending on the level of the planning process – the most advanced are institutions managing strategic national investments and regional development as well as urban workshops connected with big cities and research establishments. GIS methods are used inter alia for transport, investments for flood protection, managing coastal areas, preparing environmental studies.

Poland – Soils

There is national legislation on soil policy that promotes the use of wasteland for non-agricultural purposes. A change of use of agricultural land, proposed by local authorities, must be approved by Ministry of Agriculture. Soil classification is obligatory for agricultural and forestry areas and this strongly affects land use planning. Evaluation is carried out at local level on the basis of soil taxation maps, soil agricultural maps and in certain cases on soil contamination. Food and biomass production are the soil functions that matters most. The evaluation indirectly reflects the economic value of the land.
The owner of agricultural land is obliged to prevent soil degradation, particularly erosion and mass movement. He can propose to the responsible authority a project for forestation or the creation of permanent grasslands on his property paid by the state. Compensation is due if other forms of degradation, caused by the owner, take place. For land around industrial plants, management plans, analysis of agricultural products in the neighborhood every three years and, eventually, the payment of compensation is the responsibility of the polluter.

There is an additional fee to change land use from agricultural to housing use, excluding small single family buildings. The national regulation of the Minister of Environment (2002) on soil and land quality standards specifies criteria for soil quality referring to content of contaminants that are set for three different land use types: protected areas, agriculture and housing, industrial and transport infrastructure. If contaminant exceeds the relevant threshold, the soil should be decontaminated or change its use. There are no examples “no net land take”.

Romania - Planning

Law 350/2001 states that spatial planning activity should be carried out across the entire Romanian territory, based on the principles of hierarchisation, cohesion and spatial integration. At the national level there is a Territorial Development Strategy for Romania and a National Spatial Planning Plan. At the regional level there are regional zoning plans and inter county/municipality plans. Locally there are General Urban Planning Plans, Zonal Urban Plans and Detailed Urban Planning Plans for specific sites and areas. Land use planning rules are the same for each level of land planning but local public authorities have autonomy to operate different approaches depending on territories characteristics. Only special urban planning documentations (for protected areas etc.) need the approval of the central public administration. With respect to urban sprawl, trends for the future rest on projections for increased population and rising incomes that will lead to an increase in the number of homes demanded.

A commitment remains towards sustainable development and the protection of the environment. New legislation came into force in 2011 in order to further protect against urban sprawl and land take. In Romania in sensitive areas environment analysis and approval is required. Soil quality is taken into consideration. In order to change the function of land from agricultural, forest etc to built-up area an analysis of the soil is required.

Land planning in Romania is based on spatial images and GIS. Spatial data and GIA methods are used for both policy making and also policy implementation activities. Urban planning documents are based on a cartographic support, but there is no requirement for a standard method of analysis.

Romania - Soils

There is a national regulation for implementing soil monitoring for agricultural purpose at the NUTS3 level. Soil evaluation takes into account a variety of characteristics that can be grouped into climatic, relief, physical, chemical and pedogenetic processes, with the highest score allocated to the highest potential food production. For building purposes, physical characteristics are the most important and they could indirectly influence the costs of building. The most important soil factions are food production, environmental interaction, carbon pool, mitigation of floods, reduction of emissions of greenhouse gases and adaptation to climate change.
Compensation measures are due for soil sealing in the form of a fee when land use changes, while for contamination the remediation measures follow the polluter pays principle. In land use planning, contaminated land is considered as a resource and it is regulated under a National Strategy for contaminated land. If it changes the legal status of land which held an environmental impacting activity, before trading or selling the contaminated land, the soil and subsoil should be investigated under the responsibility of polluter, or landowner or the economic operator. The level of governance is at the NUTS3.
Examples implementing the “no net land take” are based on so called “eco-points”. Development work requiring ecological compensation measures in accordance with national law on nature conservation are taxable according to the eco-points. Developers must demonstrate that compensatory measures are equal in value to elsewhere in the country.

Eco-points can be purchased at clearing agencies formally authorized to sell and to carry out the compensatory measures.

Slovakia - Planning

There are four types of plan. At the national level there is the Slovak Spatial Development Perspective. At the regional level there are regional development plans, which are followed by Municipal Development Plans. At the local level there are Zonal Development Plans. All planning authorities must comply with the national building and planning act for land use planning purposes. However individual differences might be noticed between authorities. There are a variety of factors contributing to urban sprawl, including the building of the national highway grid. In some cases, this is causing conflicts with protected areas. The building, reconstruction and enlargement of sport and recreation resorts is leading to further pressures in protected areas. There is urban sprawl within the towns and new industrial zones at most cities.

Environmental criteria remain key elements within decision-making. The development plan contains a landscape ecological plan. Soil quality is taken into account in this. The development plan displays value of soils and projects/highlights proposed interventions

The majority of land and urban planners in **Slovakia** do not work with spatially explicit data and geographical information analysis methods because to date these data have been hard to obtain.

Slovakia – Soils

Soil evaluation is mandatory for every development plan. The impact of development on the soil should be assessed and then approved by the competent "Land office". Soil is considered as a resource as the evaluation deems both soil characteristics (soil taxonomy, soil depth) and the main threats (compaction, decline in organic matter). Soil is divided into nine categories on the basis of quality and value of production and ecological potential of agricultural land (1 most valuable to 9 least valuable); factors that are related to its economic value. The soil functions taken into account are environmental interaction, biological pool, source of raw materials and archive for natural and cultural heritage. Compensation measures are paid by the developer.

Slovenia – Planning

At national level the main document defining spatial policy in Slovenia is the Spatial Development Strategy of Slovenia (2004) that provides the framework for spatial development across the entire national territory and sets guidelines for development within European space. It provides the concept of spatial planning and management, land use and spatial protection. Planning instruments are laid down in three major acts that constitute the framework of land management. These are:

- *Spatial planning act* (2002), which covers implementation measures,
- *Spatial planning act* (2007), which lays down types of spatial planning documents, their content and mutual relations and procedures for their drafting and adoption,
- *The act regarding the siting of spatial arrangements of national significance in physical space* (2010), which deals especially with National Spatial Plans.

Due to a (recent) sectorial approach to spatial planning, this framework does not stand alone. Acts such as *Environment protection act, Nature conservation act, Waters act* and*, Agricultural land act* also heavily supplement the framework. As mentioned the state is responsible for "Spatial Development Strategy of Slovenia" and for numerous National Spatial Plans for various types of "spatial arrangements of national importance" (highways, power plants, power lines, railways, etc.).

Municipalities (local level): Detailed land use planning is done only on the local (municipal) level (Municipal Spatial Plan, Municipal Detailed Spatial Plans). Local municipalities (211 in total) are in charge of the rest of physical space and for all other spatial arrangements, which means that most of spatial planning and land management are carried out at local level, Municipal Spatial Plan being the central spatial document. Detailed Municipal Spatial Plans can also be adopted afterwards in each municipality. The final municipal plan is carefully examined by national authorities (i.e. ministries, agencies,..) before being adopted.

Due to a lack of institutional regional level in Slovenia, there is hardly any regional spatial planning being carried out. Regional Spatial Plans are an option, but their adoption requires the consent of each involved municipality. We can conclude that regional level has any importance at land planning. We can talk mostly abut regional development planning.

Slovenia – Soils

No input

Spain - Planning

Regional administrative territories have wide competences in urban planning. The main planning tool is the Plan General de Ordenacion Urbana which is produced by the municipality administration. This plan needs to be approved regionally. Some areas do not have the benefit of these plans, for instance in small towns and villages. Where this is the case there are 'Subsidiaries Rules' which provide general information and guidance on planning. There are other types of local plan too. Although the planning system is responding to a variety of challenges, it is difficult to identify specific trends and challenges given territorial variations. The economic crisis has had an impact on construction and real estate activity, ending a decade of strong growth in this area which led to the urbanisation of a large volume of soil.

In Spain areas can be classified for urban planning as 'suelo no urbanizable' (non-urbanised areas) and are established on the basis of a strict regimen of identified compatible land uses with land quality soil conservation and environmental factors key in the decision making process.

GIS is one of the basic tools in the development of zoning and territorial plans in Spain. Such systems are routinely used: for drafting of urbanization instruments; in the phases of analysis and justification of the proposal; and in the presentation of the planning documents. However, in some regions different systematization standards are set by those drafting the plans and by the different public authorities' users.

Spain – Soils

There is national legislation on soil policy (R.D. 1492/2011) regulating the valuation of land that can be classified and assessed according its use: rural soil, urbanized soil and cost of urbanization. Evaluation takes into account different factors such as neighboring areas, accessibility to public services, typology/state/age of construction on the land, economic actions accounting, burden and taxes. Soil evaluation is often linked with urban exploitation of land and mitigation of environmental damage and the most important factors to analyze are the surrounding public services, cost for land maintenance, neighbouring socio-economic scenarios, future building expectations, and historic-artistic preservation. The economic value of soil depends, on the location, their specific uses and exploitation regime and it should not only take into account current land uses but also the potential (both physical and legal) uses that could be more lucrative. The Cadastre calculates the economic value of soils for expropriation and valuation for certain financial purposes.
Spain fully applies Directive 2004/35/CE on environmental liability with regard to the prevention and remedying of environmental damage, establishing concrete rules for valuation and economic determination of environmental damages. In case of contamination, the soil has to be remediated and this could prevent the execution of building rights and other land developments if they are incompatible with the remediation or recovery measures and no compensation is possible. The state of the soil should be recorded on the folio of the registered property and informs possible buyers about the land situation. No examples of "no net land take" have been reported.

Switzerland - Planning

Overarching national strategies (Swiss Spatial Development Strategy), supported by 'concepts' (e.g. on landscapes) and plans (e.g. transport and energy). The 26 Swiss Cantons produce a Richtplanung (spatial development concept and plan). At the community level there is a zonal plan (Nutzungsplanung) which is implemented through construction permits (Baubewilligungsverfahren). There is accelerating demand for homes (due to population growth, smaller households, increase in wealth etc.). Congested roads and high pressure on the public transport infrastructure, due to an increase in the number of passengers and a higher number of commuters (over longer distances). The economic crisis has had a lesser impact than other parts of Europe. The planning system continues to play attention to environmental criteria.

Environmental factors are considered in the decision making process, especially where high value agricultural areas are affected. The 'Sectoral Plan FFF' is highlighted in this context as a key tool.

There is a hierarchy regarding the geographical data modeling
"Sachpläne"[i] and "Nutzungsplanung"

Switzerland – Soils

Land use planning does not generally consider soil evaluation, although there are some excpetions. However, a Swiss soil strategy is in preparation which will probably include policies and guidelines to include soil evaluation as part of land planning mechanism. At the moment, no soil characteristics are taken into account in land use planning. There is no direct economic evaluation of soils: they have traditionally been categorized according to their fertility and their ability to serve as good agricultural land. Compensation for soil degradation is required if a field which is part of the cadastre of crop rotation areas should be designated for landscapes and natural land uses of high value. A national register on polluted sites exists. If a site is in need of a remediation, the competent authority will set the objectives and timescale for the remediation and will oblige the holder of the site to carry out the necessary work. The goal for remediation follows the "fit for purpose" principle. There are no specific rules for trading/selling contaminated sites but the developer may build only if the site is not in need of remediation, if the project does not make further remediation necessary or if its later remediation is not seriously hampered. No examples of no net land take practice have not been provided. However a website to exchange information on brownfield exists.

Turkey - Planning

Nationally there is a plan which is prepared by the Ministry of Development (the tenth of these is being prepared). There is also a National Spatial Strategy Plan which is prepared by the Ministry of Environment and Urbanism. This consists of a vision, strategic goals, policies, and annual delivery programmes. There are also regional plans although these, which are produced by development agencies, do not have a spatial dimension. By way of a complement to these, the Ministry of Environment and Environment also develops regional spatial strategic plans. There are also territorial plans which are macro scale plans that determine key land-use decisions. At the local level there are land-use and implementation plans. Municipalities are responsible for the areas in the municipality borders, whereas Special Provincial Administrations are responsible for the areas between municipality borders and province borders. In Metropolitan Municipalities, municipality is responsible for the whole area in the province borders. A variety of challenges are associated with urban sprawl, including a sizeable number of illegal, or poorly constructed, properties.

By way of a response to rapid urbanization, and occurrences of uncontrolled and illegal construction activity, the emphasis in Turkey has turned to re-developing urban areas (particularly through the demolition of dangerous structures). The Territorial Plan is focused upon environmental considerations and the spatial strategy plans also considers this.

GIS analysis are used throughout all stages of the planning process, for example spatial analyses and network analyses are used in spatial strategy plans. Additionally, work continues towards obtaining an inventory of national spatial data.

Turkey – Soils

There is a national legislation on agricultural land use that, through its directives and guidelines, is controlled by Ministry of Agriculture. At a lower level of governance, city governors are responsible for land use planning. Soil evaluation and its parameters (e.g. soil depth, soil texture, slope) are strongly linked with the agricultural function of soil and do not take into account the economic value as a relevant parameter. Food and environmental interaction are the most important soil functions reported.

There is no information available for compensation measures. The soil contamination is not taken into account in land use process and there is no information on specific rules concerning change of use or trading/sale of contaminated lands. There are no explicit example provided of “no net land take”. However the legislation addresses this issue aiming at soil conservation and settling up land planning that avoid additional land take.

6 - Good Practice Examples of Land Planning System (Question 6)

In **Croatia** there are regional differences and imbalances in the living conditions between areas, manifested in unequal economic potential. Integrated development activities between areas of intense growth and congestion and areas that are economically underutilized seek to improve the distribution of labour and utilization and exploitation of natural resources to best serve national competitiveness, sustainability and high quality of life. This is achieved through urban networks as a form of cooperation within and between regions in which cities/municipalities act as partners. Due to the equal rights and voluntary action, they direct and complement their potential and skills jointly for better implementation of tasks.

In **France** the Territorial Coherence Schemes (SCOT) embody principles for regional balance, urban renewal, efficient land management, social diversity and the preservation of the environment. The law requires that the SCOT (as do the Local Urbanism Plan [PLU] and Communal Charts) must reduce space consumption (counter urban sprawl), preserve spaces used for agricultural or forestry activities, balance the geographical distribution of trade and services, improve energy efficiency, reduce (and not just control) travel, reduce greenhouse gas emissions, and enhance biodiversity conservation and ecosystems (including through preservation and restoration, ecological continuity). The measures it puts in place can reduce space consumption in general, without distinguishing between types of space. In particular, the SCOT and PLU must provide an analysis of past consumption of natural, agricultural and forestry products, and determine the objectives of efficient use of space for the future. The same law provides mechanisms to fight against urban sprawl by promoting density: the SCOT can, for example, impose a minimum development density or prohibit the appropriation of non-urban areas to development. More generally, the law refers to issues related to the consumption of space: travel, business development. The law of Modernisation of Agriculture and Fisheries (MAP) of 27 July 2010 aims to limit the decline of farmland. The Commissions “Departmental Consumer Spaces Agricultural” (CDCEA) advise on procedures for documents planning and planning permissions in relation to the objective of reducing consumption of agricultural land.

In **Finland** the land use planning system contains many good tools for sustainable land use, but the question is how municipalities use them. Proactive, coherent and consistent land use policy is a good practice in municipalities. Joint master plans where several neighboring municipalities together prepare cross-boundary master plans can offer tools to integrate land use in large urban areas but are rarely used. Letters of intent between the state and municipalities in an urban region on land use, housing and traffic issues (MAL) have recently been introduced for a comprehensive approach to the improvement of the regions’ prerequisites for development.

In the **FYROM,** one of the measures for good organisation and usage of space and protection of the environment is the preparation of planning documents for establishing economic zones, as well as housing areas in which the local government or the national government helps disadvantaged groups to build their homes; for example, the Decree for crediting apartments which will cost less than 800 €/m2; urbanization of suburban areas on the land property of the State which will be sold inexpensively, etc. The usage and protection of agricultural land is regulated with the Law on agricultural land and it is under the responsibility of the Ministry of Agriculture, Forestry and Water Economy.

In **Greece** a new Special Inspectorate for Building and Energy has been created recently. It uses satellite photos of different periods to identify urban sprawl and land take, and penalises illegal acts. Staff resources are still limited, but a number of illegal constructions have been demolished.

For **Hungary** the following 2 examples were provided:

GP1) In the existing legislation (as well as in the current draft version of the revised/amended National Spatial Plan) there are 4 special spatial planning zones where the designation of urban areas is strictly restricted for protection purposes (in terms of soil quality or natural assets). (See also Q1 and Q3)

1) Zone of High-quality Arable Land

2) Zone of High-quality Forest Area

In these zones an area for development (economic areas/residential recreation) may only be designated in exceptional cases should there be no other possibility, on the basis of a spatial planning authority procedure. (According to Act No 21/1996 on Regional development and Spatial Planning the local area land use permission can be given only by the state chief architect on an exceptional basis.)

3) Zone of National Ecological Network - core areas

4) Zone of National Ecological Network - ecological corridors

An area for development cannot be designated in this zone either, unless under very special circumstances (that is, if the built-up area is surrounded by the core area or the ecological corridor (i.e. there are no alternatives), and designation is not prohibited by other legal regulations) and on the basis of a spatial planning authority procedure. During the process it is examined whether the maintenance of the natural and semi-natural biotopes of the core area as well as the core area and the ecological corridors and the undisturbed ecological connections are ensured.

Besides there are other zones where designation of urban areas is restricted on the basis of the risk prevention principle, including the Zone of areas of high-water bed and flood reservoirs implemented within the framework of the further development of the Vásárhelyi Plan..

Furthermore the regulation of different land use categories also contributes to land protection and the limitation of urban sprawl.

GP2) Urban sprawl is a serious problem in Budapest and its suburbs. Act No. 64/2005. on the Spatial Plan for the Agglomeration of Budapest allowed a 2% growth for all relevant settlements during each revision period of the plan. The last revision in 2011 unfortunately ceased this restriction, leading to substantial growth of building zones in the agglomeration

area. However, urban planners developed a digital monitoring system, based on Google Earth, allowing for the assessment of needs and calculations for each settlement providing a better control of land take and urban sprawl. In the system there is also an option to turn building zones again into agricultural or forest areas, and use other brownfield territories for new developments that are in line with settlement development goals.

In **Italy**, the first region to reform its planning system was Tuscany in 1995. The regional Act n.5 introduced a new planning machinery, based on the system favoured at that time by the Istituto Nazionale di Urbanistica. The new system introduced different planning documents where the master plan is to be formed by two different documents, the Piano Strutturale (structure plan), with the aims of setting out the general strategy and vision for the city, and the Regolamento Urbanistico (development plan), which is to determine and identify development areas, to be developed within a five year time period. An important objective to be achieved through the new planning system, which emerged both from the national debate and implicitly from the new regional system, was the speeding up of the planning process. At present half of the Italian regions have followed the experience of Tuscany and have introduced new acts and planning systems. Many others are working on the reform process and have it currently underway.

In **Latvia** it is the competence of local government to set building restrictions in the local spatial plans. There are several local governments that have set such restrictions that new dwelling houses can only be built within the village or town, not in rural areas. Also, public consultations take place when planning new villages.

In the **Netherlands** the strategic planning of Amsterdam can be considered an example of best practice. The 'general extension plan' drawn up in the 1930s provided the guiding principles for the 'finger' structure up to this day, which has ensured that green functions penetrate deep into the urban fabric. It has also contributed to building at higher densities than would have been possible otherwise, with obvious benefits for the natural environment. Another Dutch example is the national 'buffer zone' policy to protect land between large cities from urbanisation. As a result, the large cities of the Randstad have not coalesced but retained their morphologically discrete forms. Although this policy has recently been abolished, the provinces have, to date, continued the policy approach using their own instruments. Further, the restrictive policy on retail in the Netherlands can also be considered effective. It banned all retail outside designated centres (town, district, village), making exceptions for car and boat dealerships, garden centres, home improvement and furniture. Because of this policy, there is not a single out-of-town shopping mall and only a few hypermarkets in the country.

In **Poland**, the owner of agricultural land is obliged to prevent soil degradation, particularly erosion and mass movement. However the land owner may receive funds to create a forest or permanent grassland after approval from the responsible authority. In this case, the costs of indispensable seeds and shrubs are reimbursed to the owner coming from fees paid in other areas for abandoning agricultural land use.

In **Romania**, there are no specific laws regarding the land take, urban sprawl and other similar activities. There are some general laws that stipulate the problems mentioned above as follows:

- Law 18/1991 – regarding land giving back or compensation;
- Law no. 165/2013 - on measures to complete the restitution in kind or by equivalent of assets confiscated during the communist regime in Romania.

For controlling urban sprawl there are some rules that stipulate that it is forbidden to build buildings in protected areas close to localities.

In **Slovenia** there is a long-term tradition of spatial planning in which environmental assessment procedures and public participation are involved.

Key phases in the national spatial plan procedure include:

- Preparation of different feasible variations of "spatial arrangements of national importance" (highways, power plants, power lines, electric grids, railways, roads, etc.);
- Analyses and comparison of variations from different points of view – spatial development, environmental sustainability, functional and economic point of view, etc.;
- public hearing at the very beginning of the procedure (when all options are still open) and after analysis and comparison of variations;
- Proposed solution has met development needs and is acceptable from the environmental and, economical point of view as well as in the local community.

In **Spain** the main example of good practice is the 'SIU - Sistema de Información Urbana'[35] developed by the Public Works Ministry in close collaboration with regional governments. SIU is a land planning information system which collects urban information for the entire country and was developed in coordination with regional governments and local administrations. Using SIU it is possible to get land planning and urban information in a homogenous and comparable way for the entire national territory, accessible via client web portal, or through Web Map and Web Feature Services (WMS and WFS)(catalogued in the Spanish SDI). Also, the SIU webpage plays the role of node to access for other regional land planning information systems[ii]. It is important to note that with SIU and the regional urban information systems, urban sustainability indicators can be obtained that are applicable to the urban policies to avoid or minimise the urban sprawl effect.

Turkey has prepared and started to implement an Integrated Urban Development Strategy and Action Plan that aims to develop livable, healthy and secure cities that covers the period 2010-2023 under the context of Integration of Sustainable Development to Sectoral Policies. Within this action plan, many activities take place for controlling urban sprawl and land use.

For **Switzerland** the following document was provided as the response:
ggf. Nutzungsplanungsmodell und demokratisch legitimierter Prozess zur Revision der Bauzonen (2011).

No examples were provided in response to question 6 by **Estonia, Belgium** (**Flanders), Kosovo**, **Slovakia** or **Germany**.

[35] http://www.siu.vivienda.es

http://www.fomento.gob.es/MFOM/LANG_CASTELLANO/_ESPECIALES/SIU/SIU2/ENLACES/enlacesCCAA.htm

7 - Good Practice Examples of No Net Land Take (Question 12)

In **Belgium** (**Flanders)**, OVAM is directly involved in the removal of waste products and soil remediation. OVAM strives to integrate its cleanup activities into broader redevelopment projects. This ensures the creation of significant added value. Good communication with all parties concerned is crucial. In this way, the selling of 'used land' is guaranteed with no surprises. This may lead indirectly at no net land take.

Soil evaluation is mandatory when there are indications of soil contamination. A descriptive soil investigation (trying to find out about the dispersion of the contamination and its future evolution) and a remediation project must be worked out. Anyone looking to trade/sell land must have a soil status/certificate.

In **Bulgaria,** decisions to eliminate "net land take" involve many stakeholders. This objective is tackled through integrated programmes for land use and territorial planning policies, as well as targeted policy instruments, such as protected area networks. The role of green infrastructure and site protection under Natura 2000 as well as the reuse of land are aspects considered as the most important in land resource management.

With regard to soil preservation, since 2004, a multi-level monitoring programme has been developed; it consists of large-scale monitoring (uniform grid 16x16 km in 397 points providing data to assess the state of soil according to chemical and physical criteria), medium-scale monitoring, and observations at small scale to investigate soil contamination.

In **France**, the "Code de l'urbanisme" provides numerous examples of good practice:
1. Every development that involves a diminution of land for agricultural activity must first be submitted and approved.
2. An analysis of the consumption of natural, agricultural and forest areas in the ten years prior to the approval is required.
3. Each redevelopment plan is subject to revision in the event of the consumption of excessive space.

In **Finland,** an example of good practice is found in appropriate environmental communication: when someone is selling or renting a polluted site, he/she is obliged to tell the new owner or tenant what kind of activities have been carried out on the site and if any pollution has or may have occurred. If this requirement is ignored, the buyer has the right to demand that the agreement be cancelled, that the price be lowered or that the seller covers the damages. In this way, the taxpayers are not required to invest money to protect so-called "innocent buyers" as is done in other countries.

In **Germany**, there are different examples of achieving the goal of "no net land take":
1. The community of Wallmerod [36]decided to stop land take completely and to put all efforts into the revitalisation of abandoned sites.
2. In the framework of the research program REFINA[37] the Land Saarland participated in a strategy to ensure zero land take. Subsidies should be linked to the non-development of greenfields and to the redevelopment of derelict sites.

[36] www.lebenimdorf.de

[37] http://www.refina-info.de/projekte/anzeige.phtml?id=3107

3. In 2004 a federal pilot project was set, in order to achieve the 30-Hectares-Goal, which means that the land consumption in Germany should be reduced to 30 ha per day by 2020. The German government is seeking to establish the trade with "area certificates" in analogy to CO2-Emission-Certificates[38]. At present, 15 local governments are taking part in the trade.

Planning and managing land take – lessons learned in Germany

Objective of the National Sustainable Development Strategy (2002):

- By 2020, land take for new housing and transport developments is to be limited to 30 ha per day.
- The objective is very ambitious: Situation from 1997-2000: 129 ha per day. Situation from 2007–2010: 87 ha per day.
- The German approach is a twin-track strategy, comprising:
  - further strengthening of the inner urban development;
  - limiting new land take on the urban fringe.
- Implementation with a mix of instruments, such as:
  - Giving priority to inner urban development; Revitalizing the inner cities; Space-saving housing developments with low levels of traffic; Enhancing the productivity of land; Land recycling; Taking soil qualities into account; and Safeguarding open spaces.
- The 30 ha objective is addressed primarily to the federal states (regional and sub-regional planning) and local authorities (development planning). The Federal Government supports their efforts through legislation (spatial planning law, urban development law); financial assistance and research programmes; and information.

In **Italy**, at regional level, there are opportunities to find out about the characteristics of brownfields (webGIS), with very detailed data collected, sometimes with the collaboration of Regional Environmental Agencies. This provides credibility to the public authorities and helps avoid unpleasant surprises. The concept is that the brownfield reuse may save greenfields, although there may be social implications in deterring investors EU-wide or worldwide.

In **Kosovo** there is an administrative instruction approved by the Ministry of Agriculture, Forestry and Rural Development called CPZ (Construction Planning Zones) which delimits the nature and scope of urban growth.

In **Latvia**, an example of good practice is the scheduled process of periodically repeated soil evaluations that will allow a comparison of the soil situation between decades, to know the trends and to estimate the future situation. All information coming from these surveys could provide the basis for sound management and in the Land management law, the proposal states that the soil evaluation of agricultural and forest land should be carried out once every 20 years. The first evaluation should be carried out until 2020.

In the **Netherlands**, as an example of good practice as applied to contamination, the initiator of soil works and building activities has the obligation to obtain a 'clean soil statement' from

[38] http://www.flaechenhandel.de

the local authorities on soil contamination. Moreover, the Dutch system has developed, in connection to CAP instruments:

- Regulations or recommendations for ploughing in hilly areas to prevent erosion;
- Regulations or recommendations for the use of heavy machinery on land to prevent soil compaction.

In **Poland**, the owner of agricultural land is obliged to prevent soil degradation, particularly erosion and mass movement. However the land owner may receive funds to create a forest or permanent grasslands after approval from the responsible authority. In this case, the costs of indispensable seeds and shrubs are reimbursed to the owner coming from fees paid in other areas for abandoning agricultural land use.

In **Romania**, the system of cross-selling accounts on the basis of eco-points can be considered as a "bank of ecological compensation"[39]. Developers must demonstrate that their compensation measures are equal to the value of the soil functions lost, in accordance with national law on nature conservation. If compensatory measure eco-points are not sufficient, they can be purchased at formally authorised agencies. The agencies are holders of eco-compensation accounts, sell eco-points and are responsible for compensatory measures. This idea has been proposed at the European level.

In **Spain,** a soil status report is mandatory when a change of use is planned (Royal Decree 9/2005). Besides, according to this Decree the administrative ruling by virtue of which a site is declared contaminated shall be recorded on the folio of the registered property or properties affected by means of a marginal note to the latest registration of title. This note informs possible buyers about the land situation.

In **Turkey**, the legislation in force addresses soil conservation and land use plans with the aim to avoid additional land take.

For **Switzerland** the Federal Office for the Environment together with partners put up a website serving as information- and exchange-platform for the re-use of brownfields[40]. The brownfield reuse is indirectly an initiative aimed at avoiding additional land take.

No examples were provided in response to question 12 by **Albania**, **Croatia**, **Estonia, Greece**, the **FYROM**, **Hungary**, and **Slovakia**.

39

http://www.eukn.org/Romania/ro_en/E_library/Urban_Environment/Urban_Environment/EcoBucharest_2015_project_initiates_eco_development_in_Romania_s_capital

40 www.areale.ch

www.friches.ch

8 – Findings of the NRC LUSP Meeting

Introduction

On September 26th 2013 meeting with NRC LUSP members and EEA was held in Copenhagen. ETC-SIA presented the first draft of this report with the aim of collecting comments and suggestions supporting the continuation of the research, whilst improving the report to maximize its usefulness for final users. The project has compiled the experience and knowledge from 22 countries via a questionnaire survey. Questions were posed including "which land planning instruments are available in your country" and "what are the key drivers of change". Responses to these questions were described in the presentation. For example, it is generally considered that the economic crisis has not affected the significance attached to environmental criteria in spatial planning. The questionnaire addresses in detail soil evaluation, characterisation and degradation.

To stimulate further discussion, four questions were posed concerning:

1. Missing issues in the land planning/soil part of the report?
2. Additional questions that could be posed to other NRCs for the land planning part/for soil part?
3. Need for an EU land planning/soil evaluation instrument or toolbox?
4. Good practice that could be usefully applied more widely?

Comments from NRC LUSP Meeting

Question 1: As regards missing issues, in general, it was considered that there is a discrepancy in respect of the level of decision making between land planning and soil protection. In many countries land use planning decisions are taken at the local level (municipal level), while soil ecosystem services and more generally soil protection is governed at higher levels (regional or national).

In some countries there are multiple levels of decision making, for example federal systems, with the municipality as well as higher levels of governance controlling the plan. Here one problem concerns different frames of action at different levels, creating potential legal conflict, where, for example, the state brings a municipality to court for failing to follow national rules. The state is unable to interfere directly in the planning affairs of the municipality, and so must pursue legal action.

In other countries, where municipalities are responsible for land planning, higher levels of governance can provide advice on the development of the plan, but do not have the power to amend plans. Exceptions to this rule include major infrastructures (such as highways) where plans (and impacts) are managed at the national level.

The level of competence for spatial planning varies greatly between countries, for example, in some countries there are national guidelines which municipalities are required to follow (e.g. Portugal, UK), while elsewhere municipalities have considerable autonomy and responsibility at the local level (e.g. Slovenia). Nontheless, national guidelines, are not always applied at the local level as local power vis a vis the centre may be strong.

Question 2: In respect of additional questions to be included in the questionnaire, for the NRCs report, the following questions were suggested :

"*Is there a strategic regulation to limit urban sprawl in your country in force? And if yes, how is this implemented at the local level? Are these regulations working, if not, why*?"

"*How does land planning integrate with river basin boundaries?*"

" In addition to the formal instruments for spatial planning, what are the most significant informal aspects associated with urban planning , and which characterise how spatial planning actually works in practice?

Additional suggestions to integrate in the survey include:

- Study and compare laws, and guidelines at EU level;
- Delineate definitions, in order to get a common understanding of common terminologies, in particular for soil functions and soil ecosystems;
- Explore the decision making process in and between countries, e.g. how countries implement the "fit for purpose" approach to soil management;
- Collect published guidelines on soil and discover how the protection of soil ecosystem services is secured, and how soil is valued.

Question 3: A key aim of this work is to define a platform of exchange, to support the dissemination of various assessment methodologies, and to share knowledge on land planning and soil evaluation in different countries in order to allow comparable evaluations across the EU

A toolbox includes a variety of tools that offer task specific expertise in supporting, for example, decision-making in the land planning and soil assessment process. Different tools may offer solutions for different tasks, or different methodologies in addressing the same task. This variety of tool specification is a response to local heterogeneity, where for example, national governments are likely to be resistant to the acceptance of any defined methodology; moreover issues arise in regard to different decision levels for land planning between countries, and between regions belonging to the same country. Accordingly different planning agencies develop plans with different methodologies that address the specificity of the territories and their (political) priorities.

These instruments are intended as resources for countries, considering that the importance of soil functions can vary significantly according to the context (urban /agriculture/ nature areas) and that land use planners usually take into account different soil functions in the assessment of an area for alternative land use development.

Question 4: Additional good practice not identified in Chapter 6, includes public bodies providing compensation to landowners whose land use is restricted, where for example, the land is included in newly created protected areas. Compensation measures may include exchange of land, tax discount or other monetary compensation.

9 – Conclusions – final report on land planning and soil evaluation instruments

This Final Report on land planning and soil evaluation instruments in EEA member and cooperating countries aims to capture the Europe-wide experience of land-related resource efficiency management tools, especially those involving land planning instruments, linked to the consideration of soil evaluation, i.e. the assessment of the quality and performance of soils for a specific purpose/use. In particular the report addresses issues highlighted as significant challenges at the first NRC LUSP workshop in 2012 including concerns regarding the evident differences that exist between countries as regards land-related resource efficiency management.

Planning the use of land is a key tool in this respect, and the extent to which insufficient or limited attention to the value of environmental resources in land planning undermines the maintenance of ecosystem services, including soil services, is a key issue. Soil quality assessment tools provide a significant opportunity to enhance the effectiveness and efficiency of land management, and thus minimise land take. However the crucial question in resource efficiency assessment, addressed in this report is whether soil information and knowledge is taken into account by land planning instruments, and if so, how?

Significant environmental policy challenges

These issues concerning the effectiveness of land planning instruments and soil quality assessment as part of the process of land management are set in the context of significant environmental policy challenges focused around the limited supply of natural resources and related ecosystem services, and hence the management of natural resources to ensure they are utilised carefully and so maintain their collective potential to deliver ecosystem services.

The European Environment - State and Outlook 2010 (EEA, 2010) demonstrates that urgent action is needed to address imminent crises facing natural resources and ecosystem services. Decades of intensive use of natural capital stocks and ecosystem degradation to fuel economic development have created environmental pressures in Europe, and moreover unprecedented global demand has chased scarcer energy and raw materials. More than ever, a range of long-term trends are set to shape the future European and global contexts, including changing demographic patterns, ever faster technological changes, deepening market integration, evolving economic power shifts, notably the current financial and economic crisis, and climate change, all of which is set in the context of accelerating rates of urbanisation.

Indeed the policy background to this report is increasing concern for the acceleration of land take and soil sealing associated with the processes of urbanisation and infrastructure development. In recent decades, land take for urbanisation and infrastructure has grown at more than twice the rate of the population increase, a trend that is clearly unsustainable in the longer term (EC's Soil Sealing Guidelines, 2012).

EU level policy action

At the EU level, resource efficiency has become a top environmental priority, identified as one of the seven Flagship Initiatives in the Europe 2020 Strategy supporting the shift

towards a resource-efficient, low-carbon economy for sustainable growth. Accordingly, the Roadmap suggests that "by 2020, EU policies take into account their direct and indirect impact on land use, and the rate of land take is on track with the aim of achieving no net land take by 2050; and that soil erosion is reduced and soil organic matter increased, with remedial work on contaminated sites well underway".

Furthermore, the EEA Environmental Indicator Report 2012 (EEA, 2012) has identified 4 key future environmental policy priorities:

- better implementation and further strengthening of current environmental priorities;
- coherent integration of environmental considerations across sectoral policy domains;
- dedicated management of natural capital and ecosystem services;
- transformation to a green economy (sustainable development).

The first three priorities are fundamentally concerned with the management of environmental priorities, and in this regard provide a context for the focus here to address the effectiveness of spatial planning and management systems in supporting land/soil ecosystem management, as a critical component in the delivery of a green economy.

Member states policy action

These issues are also addressed by the Soil Thematic Strategy (COM(2006) 231), which as a framework for the proposed Soil Framework Directive, highlights the need for appropriate measures to limit soil degradation, not only at the EU level but also by Member States. Member states action clearly includes the integration of soil quality assessments in land planning, thereby supporting the mobilisation of effective land planning instruments to limit land take. The integration of land use aspects into coordinated decision making involving all relevant levels of government, supported by the adoption of targets on soil and land as a resource and land planning objective, is also emphasised in the proposed 7th EAP, and the proposed EC Communication on Land as a Resource.

Central to effective action at the local level is the appropriate design of policy that requires not only regulatory policies, such as spatial planning, but a mixture of management measures including economic instruments (such as taxes, subsidies and trading schemes), and non-economic measures (such as voluntary approaches and information provision). Furthermore, a fundamental principle of policy design concerns the integration of economic and environmental aspects, and in particular the means by which the environmental objectives of ecosystems management are integrated with the predominantly socio-economic objectives of territorial cohesion policy.

Fundamentally, this integration is attained by the application of place-based spatial planning. Spatial planning (place-based policy formation) according to a policy process model of integrated management, aims to provide integrated assessments of the alternative territorial demands arising in relation to the policy objectives of ecosystems resilience and territorial cohesion. Spatial planning therefore addresses the potential synergies and trade-offs between the multiple economic, social and environmental goals that play out on different time scales, and in respect of different territorial contexts, in which context soil quality assessment is operative.

Survey evidence of land planning and soil evaluation in action

This report is substantially based on the analysis of information provided by responses from NRC LUSP members to the questionnaire distributed by EEA in April 2013. The analysis of the NRC LUSP responses to the questionnaire detailed in this report provides insight into current experience of a wide range of European countries in respect of land use planning and soil evaluation instruments in action.

Land planning responses

In relation to the question concerning the availability of land planning instruments, and related policies and procedures, the responses indicated that a variety of instruments exist, with processes bound by legislation and led by one or more government departments. Frequently systems are characterised by strong national lead, with some kind of national spatial plan and/or strategy, or a series of guidelines with respect to the type of policy targets. Policy targets are wide-ranging, and prevention of urban sprawl is identified as a key objective, even though protection of the environment more generally is viewed as equally important, with soils identified as part of the overall ecosystem that needs to be managed.

In respect of the levels of governance European legislation is considered to provide an element of consistency, within which context national goals and principles are applied at scales below, including regional, county, city-region, municipality, and local commune levels. The majority of lower tier authorities produce a plan or strategy, which is approved by the tiers of governance above. The local plan is typically the focus of local management initiative, although the scale and specificity varies, and some plans produce very detailed zones (supported by ordinance or code), whereas others are more flexible in nature identifying a general steer on future development.

As regards socio-economic and environmental challenges to which land planning must respond, a variety of drivers and challenges are identified. Urban sprawl is identified as a specific challenge, and the environmental consequences of sprawl are acknowledged, although few specific references to the impact upon soils and eco-systems are identified. Urban sprawl is generally associated with larger centres of population, and also in coastal areas, where it is recognised that sprawl may be encouraged/ accommodated through plan development, and a few responses referred to the proliferation of illegal/ unsafe development.

Rural depopulation is also identified as important driver of sprawl, with negative consequences highlighted in respect of decline in rural services, and rural to urban shifts leading to growing socio-economic disparities, particularly in eastern European states, accentuating the disparities between ‘centre’ and ‘periphery.’ Broader challenges include uncertainty over future levels of population and economic growth (or decline), technological change, and impacts arising from climate change.

In respect of the economic crisis, and in particular the extent to which the planning system is responding to the crisis by paying less attention to environmental criteria, no responses expressed the view that the economic crisis had reduced the level of attention given to environmental criteria. However, it was recognised that the crisis had varying levels of

impact across Europe, and that in some cases economic considerations led to pressures to develop and initiate economic growth (e.g. Greece), and overcome slow-down in construction activity (Spain). In this context environmental legislation, including SEA and EIA is viewed as important in ensuring environmental protection, even though questions were raised in respect of the effectiveness of local implementation.

Further questions related to the incorporation of environmental criteria into land use planning, and the most common specification of these criteria, in particular the extent to which soil quality is identified in the decision making process. Responses indicated that environmental criteria are primarily incorporated into land use planning through EIA and SEA employed in plan and decision making processes. The responses recognise that the use of these tools is a legal requirement within the EU, thereby underlining their prominence as a tool in decision-making. EIA and SEA were highlighted as methods for enabling and realising environmental considerations within land use planning and decision making, and soil quality was also highlighted in many instances as a consideration, even though the value/weight attached to these considerations was not clear.

Responses to the question concerning the extent to which is it possible to identify variations in land planning between different planning authorities in respect, for example, of application and enforcement of policy measures, recognise that a variety of different structures and approaches to governance and planning are operative. Whilst differences in conceptual planning approaches were not identified, nonetheless a clear variation in the roles, responsibilities and activities occurring at each level of governance, and degree of flexibility at each level were identified. A broad trend for strategic guidance/direction/control, through policy, plans and legal controls, at the national (and in some instances regional) level was also identified, with primary mechanisms and tools for detailed land use planning and decision making located at the local level. It was recognised that the degree of flexibility at the local level, due to the nature of strategic structures, varies significantly, from extensive flexibility to little or none where a rigid frameworks exist with national oversight of local activities.

Finally, in addressing the issue of the extent to which land use planning is based on spatially explicit data and geographical information analysis (GIA), the majority of responses identified the use of spatially explicit data and geographical information analysis methods in preparing land use plans. The majority use the data locally, however, considerable variation in use at the local level was identified, possibly due to the lack of national requirements to use particular systems. Policy areas for which GIA methods are used varied, including identification, protection and preservation of natural, topographic, historical and cultural features and assessing demographic trends. Others use aerial photography to create an inventory, and others are used for public engagement activities such as document display and consultation exercises.

Soil evaluation responses

Responses to the question concerning policies and procedures addressing soil evaluation as part of the land planning process identified a wide variety of different situations. In general policies and procedures vary according to whether the soil evaluation is focused on the protection of agricultural land or related to soil contamination. In respect of agricultural land the soil fertility and land production potential are evaluated to determine compensation measures. Whereas in regard to soil contamination, the objective is to evaluate the level of

risks for human health or the environment. In some countries the procedures are linked to environmental impact assessment (EIA). Soil evaluation involves many institutions, at different levels of governance, with general guidelines established at higher levels of governance and soil management specifications implemented at the local level (regions, municipalities),

As regards soil characteristics specified in soil evaluation (e.g., physical/chemical/biological data), the responses indicated the predominant use of physical, and occasionally chemical characteristics of soil. Biological characteristics are rarely used, exceptionally in Finland, where an EIA procedure is required. The specification of soil characteristics differs according to the purpose of the soil evaluation, e.g. agriculture (e.g. pH, humus content, fine clay content, soil unit, soil type, etc.), or construction (mainly contamination concentration). Soil characteristics are typically considered in the development of urban plans, or in relation to cadastral evaluation for tax purposes.

With some exceptions economic value is not used to classify soil formally, even though soil characteristics are clearly linked with economic value. The use of economic value is constrained as aspects other than soil characteristics may influence the value of soil and land, such as location and access. Accordingly soil classification is commonly related to the agricultural production function of soils, where the soil classes reflect the different degree of suitability of soils for agricultural production, and so indirectly referring to their economic value.

In relation to soil assessment as part of the planning process, soil functions including food and biomass production, environmental interaction, and functions related to natural and cultural heritage are typically considered. For example, where food production potential is considered important compensation fees to change from agricultural to an alternative land use are guided by potential production loss. In some cases (e.g., Finland, Netherlands) the importance of soil functions depends on the planned land use. For example in the Netherlands the carbon pool function is important for nature areas, neutral for agricultural areas and normally disregarded for urbanized areas.

Contamination is identified as the main soil degradation process and the polluter pays principle is the predominant compensation mechanism, by which the polluter bears the cost associated with the elimination of risk to human health and the environment. Monetary compensation is typically required when developers wish to develop land for building purposes, and the amount of the compensation is related to either the area of the building(s) or to the production potential of the agricultural soil. Soil sealing per se is rarely identified as requiring compensation.

Typically contamination is viewed as a problem rather than an opportunity, as it is considered to limit land use possibilities. However, a few countries do view contaminated land as a resource or potential resource, and this potential is supported by the provision of appropriate legislation/regulation to facilitate the reuse of brownfield land. Universally, countries where contamination is recognised as a problem identify a risk-based land management approach, in which soil contamination is considered to influence, directly or indirectly, the development of land at various levels of governance.

Finally, land contamination is widely considered as an important consideration in planned redevelopment, and there are specific rules applicable to the trading/selling of contaminated sites. In general, soil evaluation is necessary when trading or selling contaminated sites, and applied at the local level.

Concluding remarks

In conclusion it is evident that a great deal and variety of information and intelligence has been generated by the activities associated with the preparation of this report. This information and intelligence has been secured in response to many questions that concerned fundamentally the need to illuminate understanding of core issues of concern regarding the evident differences that exist between countries in respect of land planning and management effectiveness, and simultaneously the extent to which soil information and knowledge is taken into account by land planning instruments.

This work has not provided answers to the above questions and indeed the results of the survey can in no way be considered as scientifically representative of Europe-wide experience given the partial nature of the responses received, and the complete absence of responses from a number of members of the NRC LUSP. Nonetheless, it is considered that the responses provide a vital starting point and useful insight into current experience, and thereby a valuable platform for further research that should be pursued in relation to these critically important policy related issues.

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Annex 1: List of Responding Countries

Albania
Belgium (Flanders)
Bulgaria
Croatia
Estonia
Finland
France
Former Yugoslav Republic of Macedonia (in short: FYROM)
Germany
Greece
Hungary
Italy
Kosovo under UNSCR 1244/99 (in short: Kosovo)
Latvia
Netherlands
Poland
Romania
Slovakia
Slovenia
Spain
Switzerland
Turkey

Annex 2: Questionnaire addressed to NRCs Land Use and Spatial Planning

European Environment Agency

Land Planning and Soil Evaluation Instruments in EEA Member and Cooperating Countries
Questionnaire addressed to NRCs Land Use and Spatial Planning

To: **NRCs on Land Use and Spatial Planning (LUSP)**
Cc: **NFPs**

Copenhagen, 12 April 2013

Dear Colleagues,

Following our recent announcement of the second NRC Land Use and Spatial Planning meeting (26 September 2013), and a request for assistance, we would like to call on your expertise in land planning and soil evaluation instruments in EEA member and cooperating countries.

'Land and soil are vital European resources and the basis for much of the continent's development. But in recent decades, our land take for urbanisation and infrastructure has grown at more than twice the rate of the population increase, a trend that is clearly unsustainable in the longer term.' (EC's Soil Sealing Guidelines, 2012). The importance of land and soil as resources is also highlighted in the EC's Roadmap to a Resource Efficient Europe (COM(2011) 571) and the European Commission proposal for a General Union Environment Action Programme to 2020 (or 7th Environmental Action Programme (7th EAP); COM(2012) 710), as further explained below. One of the principal concerns in this context is indeed the acceleration of land take (e.g., loss of agricultural, semi-natural or natural land), substantially associated with the processes of urbanisation and urban sprawl. In the same spirit, urban and peri-urban development is obtaining more and more attention on the political agenda, which is also reflected in the proposed 7th EAP and recent renaming of DG for Regional Policy to DG for Regional and Urban Policy.

Critically, it is evident that significant differences exist between countries as regards land-related resource efficiency measures. Planning the use of land is a key tool in this respect; and in this sense the central point of interest of the questionnaire (set out below) in which we seek your views on a number of related issues. For example, the extent to which lack of or limited attention to the value of environmental resources in land planning undermines the maintenance of ecosystem services, including soil services. In addition, soil quality assessment tools provide a significant opportunity to enhance the effectiveness and efficiency of land management (and thus land take) in planning systems, and accordingly are another focus of the questionnaire.

The attached questionnaire aims to capture your country's experience of land-related resource efficiency tools, particularly those involving land planning. We would like to use the information gathered to develop a report on land planning instruments, including the consideration of soil evaluation, i.e. the assessment of the quality and performance of soils for a specific purpose/use. The report will cover some of the issues flagged by you at the first NRC LUSP meeting in 2012 as significant challenges in your respective countries. We would very much welcome your active contribution, in particular in compiling best-practice examples, since our intention is also that the material collected feeds into discussions about deepening the co-operation between EEA and the NRC LUSP on these topics.

Accordingly, we envisage the following outcomes:

- A report (written by the EEA and ETC/SIA) reviewing lessons learnt, trends, similarities and differences in policy responses, and showcasing selected land planning approaches from member and cooperating countries. We plan to prepare a draft final report for your consultation by mid-August 2013, in preparation for its discussion and validation at the NRC LUSP 2013 meeting in September. In this respect, we would very much welcome your active participation in discussing the collective material, and will of course also acknowledge your contribution in the documents.
- A session on land planning, including the consideration of soil quality, during the 2013 NRC LUSP meeting in September to discuss potential needs and formats for sharing information and experience among EIONET members. If this were to respond to countries' needs, such exchange of experience could be additionally maintained through the dedicated workspace for the NRC LUSP on the EIONET Forum.

In relation to all of the above we would be grateful if you would take the time to respond to the small number of questions set out below, and where you are unable to respond directly yourself, forward the questionnaire to the appropriate institution(s)/expert(s). The questionnaire is organised in two sections: Land Planning Systems and Soil Evaluation, i.e. quality and performance assessment for a specific purpose/use. The questions include both closed questions, which provide a basis for quantitative analysis, as well as open questions, which we hope will make available a rich resource of qualitative support for the quantitative results. Most questions provide an opportunity for provision of additional information. Please use this opportunity as fully as possible to offer examples of good practice and other indications of the specific nature of initiatives regarding land use and land planning, and soil quality assessment in your country. In addition and where relevant, we kindly ask you to mention sources (policy documents, implementation guidelines, documented practical applications, web links, etc.) that shed further light on and that will help us to correctly interpret the information you provide.

We have deliberately aimed to keep the questions focussed and simple, and thereby hope that this will assist in the completion of the questionnaire. However, if you have any comments or require further guidance on the completion of the questionnaire, please do not hesitate to contact Gorm Dige, concerning land planning issues - **gorm.dige@eea.europa.eu**, and Geertrui Louwagie, concerning soil evaluation issues - **geertrui.louwagie@eea.europa.eu.**

We would appreciate if you could return your completed questionnaires by ***27 May 2013***; and are looking forward to discuss your experience at our September meeting, for inclusion in a joint report or paper (if you are interested in participating).

Questionnaire

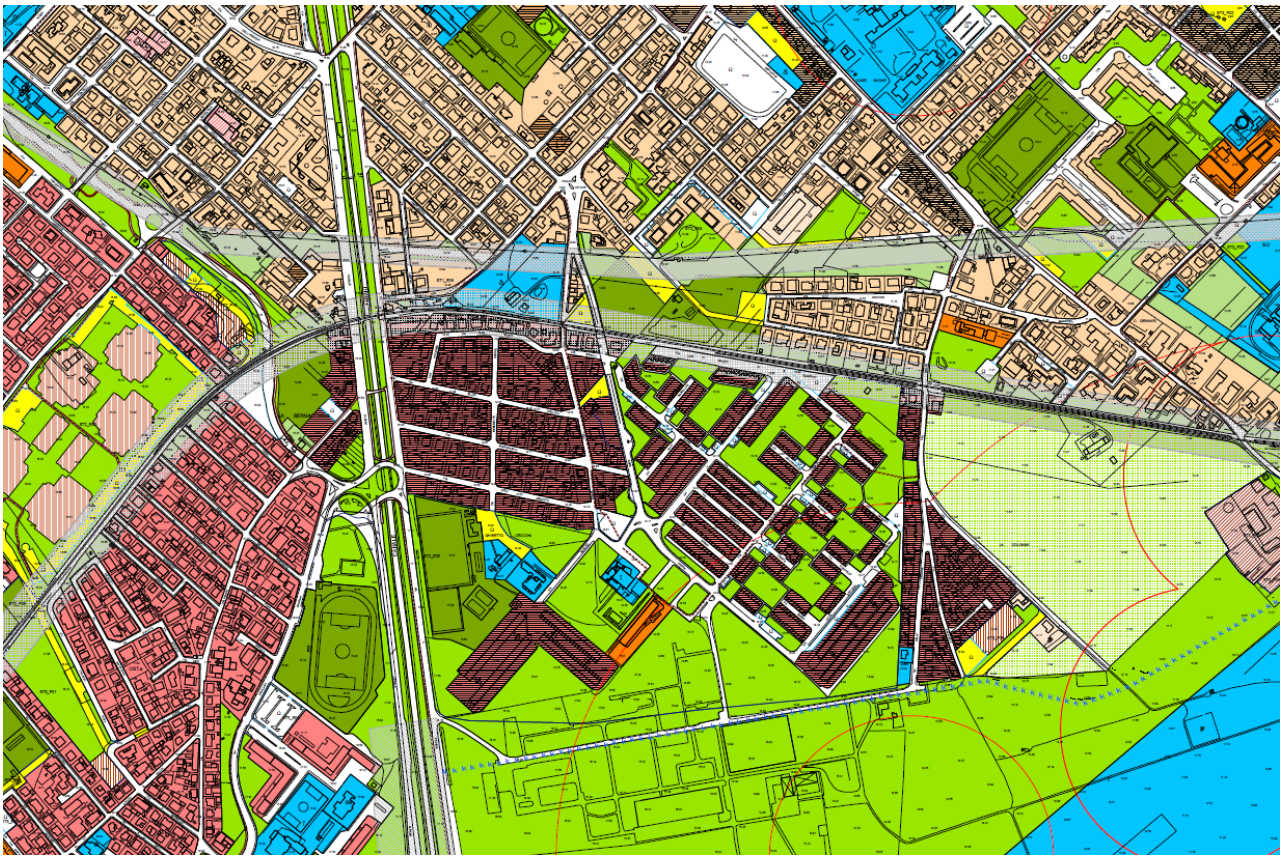
Policy background

The policy background to this initiative reflects the fact that land and soil as resources are an increasing focus of attention, and are in this sense highlighted in the EC's Roadmap to a Resource Efficient Europe. At the EU level, resource efficiency has indeed become a top environmental priority, identified as one of the seven Flagship Initiatives in the Europe 2020 Strategy supporting the shift towards a resource-efficient, low-carbon economy for sustainable growth. A key concern in this context is the acceleration of land take and soil sealing associated with the processes of urbanisation and infrastructure development. Accordingly, the Roadmap suggests that 'by 2020, EU policies take into account their direct and indirect impact on land use, and the rate of land take is on track with the aim of achieving no net land take by 2050; and that soil erosion is reduced and soil organic matter increased, with remedial work on contaminated sites well underway'.

These issues are already addressed by the Soil Thematic Strategy (COM(2006) 231), which as a framework for the proposed Soil Framework Directive, highlights the need for appropriate measures by Member States to limit soil degradation. These measures could include the integration of soil assessments in land planning, including those addressing soil quality, thereby supporting the mobilisation of effective land planning instruments to limit land take. The integration of land use aspects into coordinated decision making involving all relevant levels of government, supported by the adoption of targets on soil and land as a resource and land planning objective, is also emphasised in the proposed 7th EAP. In line with all the above concerns, the EC is also planning a Communication on Land Use in 2014.

The need for economic valuation/monetisation of environmental resources, including soil, in decision making, is increasingly recognised. A crucial question in the resource efficiency assessment is whether soil information and knowledge is taken into account in land planning instruments at all; and if so, how? In other words, on which basis is land/soil being evaluated/valued when its use is changed and/or when it is being exchanged in a land planning project. The questions below therefore seek to understand how soil quality is being valued, including in monetary worth. Change of use can refer to e.g. reclaiming of agricultural land for nature restoration and/or recreation, or use of brownfields for car parking. Examples of transactions are compensation schemes in the framework of infrastructure projects, or exchange of parcels of land between owners in order to increase land management efficiency i.e. land consolidation/'remembrement des terres'/'flurbereinigung'. The 'exchange value' of soil/land in such trade offs and/or transactions can then shed light on the economic value of soils.

Section 1 – Land Planning Systems



General Regulatory Plan of the Municipality of Fano (Italy)

1 Which land planning instruments are available in your country? What are the related policies and procedures? In this context please identify the relationship between national, regional and local-level policies and decision making in respect of land management and the control of urban sprawl.

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2 a. Please identify the key drivers of change (socio-economic and environmental) and prime challenges arising to which land planning must respond.

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b. In particular, is the planning system responding to the (current) economic crisis by paying no or less attention to environmental criteria?

3 How are environmental criteria incorporated into land use planning, and which criteria are most commonly included in the decision making? In particular, is soil quality taken into account?

4 In your national context is it possible to identify variations in land planning between different planning authorities (e.g., municipalities, regions in their respective contexts: urban, peri-urban or rural) in respect, for example, of application and enforcement of policy measures? If relevant, what explanations can you offer for such variations in land planning?

5 **Is land use and land planning based on spatially explicit data and geographical information analysis methods? Please identify in which areas of policy making/implementation such data are used.**

6 **Could you identify and elaborate on what you consider as good practice examples of land planning systems, in particular with respect to controlling urban sprawl and land take, in your country? Please document your example with institutional context, etc.**

Section 2 – Soil Evaluation[41]

People dressed with DPI in a contaminated site

7 What are the policies and procedures for addressing soil evaluation as part of land planning? Is the soil evaluation mandatory or voluntary? Please identify the level of governance (national, regional, local), as well as key institutions and stakeholders involved.

[41] Soil evaluation, i.e. assessing the quality and performance of soils for a specific purpose/use

8 Soil characteristics for soil evaluation

a. Which soil characteristics are used in the soil evaluation (e.geophysical/chemical/biological data)? Please specify according to planned use/purpose and/or economic sector (e.g., construction, agriculture, nature) where relevant.

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b. In this context, do you categorise/classify soils according to their economic value? If so, please document such classification, indicating the categories of soils with highest/intermediate/lowest value and the rules to define the value?

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9 If soil quality is assessed in the planning process, which soil functions[42] are taken into account, and to which degree?

Food and other biomass production	O important	O indifferent	O not important
Environmental interaction: storage, filtering, and transformation[43]	O important	O indifferent	O not important
Carbon pool	O important	O indifferent	O not important
Biological pool: habitats, species and genes	O important	O indifferent	O not important
Source of raw materials	O important	O indifferent	O not important

[42] Reference to soil functions chosen: COM(2006) 231 - http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2006:0231:FIN:EN:PDF; http://eusoils.jrc.ec.europa.eu/events/Conferences/2009/3_Soil_quality.pdf; http://www.isric.org/about-soils/functions-soil

[43] Of many substances, including water and nutrients

Physical platform for humans and landscape[44]	O important	O indifferent	O not important
Archive for natural and cultural heritage	O important	O indifferent	O not important
Other soil function (please specify and how it is taken into account)			

Please provide additional information to explain your response above

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10 Does soil degradation (e.g., contamination, soil sealing, erosion) require compensation (e.g., money, land of similar quality/value), and if so, by whom (e.g. developers, industry)? In case of monetary compensation, please specify whether soil information (e.g., estimated loss of soil functions) is taken into account in estimating compensation. Please illustrate your information with specific examples.

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11 Contaminated land as a resource?

a. How is contaminated land considered as a potential resource in land planning? In particular, which rules are used (e.g., remediation so that the quality is satisfactory for the planned use or so-called 'fit-for-purpose', or restoration of the original soil quality/functions)?

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[44] Including man-made structures, such as buildings and highways

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b. In this context, are there specific rules concerning change of use or trading/sale of contaminated lands? If yes, please provide examples, indicating the level of governance and the legal/procedural basis, if any.

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12 Can you provide examples of avoiding additional land take/aiming at 'no net land take'. Please provide context, including the level of governance.

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Please provide the following details for those completing the questionnaire:

Respondent 1:
Name:
Position:
Organisation:
Questions responded to (numbers):

Respondent 2:
Name:
Position:
Organisation:
Questions responded to (numbers):

Respondent 3:
Name:
Position:

Organisation:
Questions responded to (numbers):

For additional respondents please copy above.

Thank you for your co-operation!

[i] http://www.are.admin.ch/dienstleistungen/00904/04205/04585/index.html?lang=de
[ii] http://www.siu.vivienda.es
http://www.fomento.gob.es/MFOM/LANG_CASTELLANO/_ESPECIALES/SIU/SIU2/ENLACES/enlacesCCAA.htm