THE SOIL THEMATIC STRATEGY AND LUCAS

DG ENV B1

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1. THE SOIL THEMATIC STRATEGY

On 22 September 2006, the European Commission adopted the Soil Thematic Strategy[1] and proposed the adoption of a Soil Framework Directive[2] with the objective of protecting soil functions and preventing further soil degradation in the EU[3].

The Soil Thematic Strategy starts from the fact that soil degradation is occurring, and is actually worsening for certain degradation aspects, which shows that existing policies and legislation, at EU as much as at national level, are not yielding the expected results. A cursory glance at the evidence gathered in preparation of the Soil Thematic Strategy and summarised in the Impact Assessment[4] shows that: there are an estimated 115 million ha, or 12% of Europe's total land area, that are affected by water erosion; 42 million ha are affected by wind erosion, of which 2% are severely affected; around 45% of soils in Europe have a low, or very low, organic matter content (meaning 0-2% organic carbon); and 45% have a medium content (meaning 2-6% organic carbon). This is particularly worrying, because soil organic matter is vital for maintaining soil fertility and plays a major role in the carbon cycle of the soil. As a result of more than two hundred years of industrialisation, the European Environment Agency has estimated that 3.5 million sites across the EU are potentially contaminated, with 0.5 million sites estimated to be contaminated and needing remediation.

To reverse these unsustainable trends, the Soil Thematic Strategy explains why EU action is needed to ensure a high level of soil protection, and what kind of measures must be taken. The Soil Thematic Strategy underlines that soil is an essential and irreplaceable natural resource that performs a number of fundamental functions which need to be protected. Soil produces food and fibre; is the interface between earth, air and water; it stores, filters and transforms many substances including water, nitrogen and carbon; and it is in fact the largest carbon store in the world. The objective of the Soil Thematic Strategy is to define a common and comprehensive approach to soil protection, focusing on the preservation of soil functions. It is based on the principles of preventing further soil degradation and preserving soil functions, by acting on soil use and management patterns, when soil is used and its functions are exploited, and by taking action at source, when soil acts as a sink/receptor of the effects of human activities or environmental phenomena. In addition, the Soil Thematic Strategy calls for restoring the functional capacity of degraded soils to a level consistent at least with current and intended use.

[1] Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: Thematic Strategy for Soil Protection (COM(2006) 231).

[2] Proposal for a Directive of the European Parliament and of the Council establishing a framework for the protection of soil and amending Directive 2004/35/EC (COM(2006) 232).

[3] More information on soil policy at EU level and the texts of the Soil Thematic Strategy and the SFD can be found at http://ec.europa.eu/environment/soil/index_en.htm.

[4] SEC(2006)1165 (summary) and SEC(2006)620 (full report).

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An integral part of the Soil Thematic Strategy is the proposal for a Soil Framework Directive, which is structured along three lines: 1) Preventive measures: Member States must ensure a sustainable use of soil. If soil is used in a way that hampers its functions, mitigating actions must be undertaken. Other policies' impacts on soil must be assessed; 2) Identification of the problem: Member States must identify the areas where there is a risk of erosion, decline in organic matter, salinisation, compaction, or landslides. As far as contamination is concerned, Member States must draw up an inventory of contaminated sites; 3) Operational measures: Member States will then have to act upon the risks identified by adopting programmes of measures for the risk areas, national remediation strategies for the contaminated sites, and measures to limit or mitigate sealing. However, they are free to decide upon the level of ambition of their soil policy, to set their own targets, and to decide how and by when to achieve them.

As, in essence, the Soil Framework Directive proposal requires Member States to preserve soil functions, to identify where degradation is already occurring, and to set their own level of ambition and their own timetable to combat such degradation, this in practice means that where soil friendly sustainable agricultural practices are already being carried out, they need only to continue. Where, on the other hand, the Member States' own diagnosis establishes that soil degradation is occurring at an unacceptable level, then Member States will need to develop appropriate responses to ensure sustainable soil use. Such responses can build on existing measures and programmes, to avoid any duplication of efforts.

The Commission on 2 October 2013 adopted a Communication on 'Regulatory Fitness and Performance (REFIT): Results and Next Steps'[5] whereby it noted that the proposal for a Soil Framework Directive had been pending for eight years during which time no effective action had resulted. The Commission will therefore examine carefully whether the objective of the proposal, to which the Commission remains committed, is best served by maintaining the proposal or by withdrawing it, thus opening the way for an alternative initiative in the next mandate. This will be judged on the feasibility of reaching adoption before the European Parliament elections. This announcement, seen in the context of the clear commitments made by Member States in the Seventh Environment Action Programme[6] to 'reflect as soon as possible on how soil quality issues could be addressed using a targeted and proportionate risk-based approach within a binding legal framework', should be understood as a call and opportunity for a new momentum in discussions leading to the proper protection of soil, on and "in" the ground.

2. THE LINK WITH LUCAS

As noted by the European Environment Agency in its latest Status of the Environment Report[7], It is a well-known fact that a pan-European assessment of the state of soil lacks a legal requirement to collect relevant information in a harmonised manner or even at all. While most European countries have mapped the soils on their territory that are used for agricultural and forest production, many of these surveys are now several decades old, not updated and may not contain the data required to answer current questions such as their potential as carbon

[5] COM(2013) 685.

[6] Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020 'Living well, within the limits of our planet' (OJ L 354, 28.12.2013, p. 171–200).

[7] European Environment Agency and Joint Research Centre of the European Commission (2010), The European Environment. State and Outlook 2010 – Soil, p. 8 (http://www.eea.europa.eu/soer/europe/ soil).

sinks, the impacts of pollutants on soil micro-fauna, the leaching of phosphorus due to over-fertilisation or the state of environmental functions. Some countries have detailed and wide-ranging soil monitoring networks which measure a number of parameters relating to soil quality. However, many of these networks reflect national priorities and standards, making the comparison of their results with those of other countries difficult. Many countries have no provision for the systematic collection of soil data. Consequently, there is a difficulty in applying a bottom-up approach of collating reports from the individual countries to derive a harmonised evaluation for Europe. While there are increasing examples of soil function maps at the local level, pan-European assessments are rare.

From the viewpoint of European policy-making, LUCAS has three very important characteristics that makes it a good tool for achieving the objectives of the Soil Thematic Strategy: 1) It is based on a uniform methodology applied consistently across the EU, 2) It has sufficient flexibility to allow the Commission services to determine which parameters to consider in the different survey campaigns, and 3) It can provide a first set of harmonised and comparable soil monitoring data within two-three years.

LUCAS is an important statistical and data support tool for the Soil Thematic Strategy for at least two broad sets of indicators. On the one hand, for indicators relative to land take, soil sealing, and more generally land cover and land use. On the other hand, the large spectrum of indicators that can be derived from the analysis of chemical/physical soil parameters.

2.1. Land use and land cover

In the context of the Soil Thematic Strategy and of the Roadmap to a Resource Efficient Europe[8], there is a need to evaluate land take and soil sealing at European level. This can be done through the analysis of Corine Land Cover[9] data, which in turn are validated through the use of LUCAS point information on land use and land cover. Without LUCAS, it wouldn't be possible to have comparable and harmonised statistics as to land conversion in Europe. This is crucial information in view of the milestone in the Roadmap to a Resource Efficient Europe, according to which the rate of land take by 2020 is on track with an aim to achieve no net land take by 2050. Moreover, the Commission services are working on a possible Communication on "land as a resource"[10] to be adopted by the new Commission in 2015. LUCAS data on land cover and land use is going to be very important in this context.

2.2. Physical/chemical parameters

The physico-chemical analyses of soil samples collected through LUCAS allow a wide range of policy assessments and provide much needed harmonised and comparable data as to soil characteristics (and their evolution) in Europe. One of the important outputs of such analytical work is a better evaluation of soil carbon stocks in European soils. This is very important in the context of climate change policy, but also for food production, as soil organic matter is a key factor in maintaining soil fertility. Others include improved modelling of soil erosion, assessments of salinisation and acidification processes etc.

[8] Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: Roadmap to a Resource Efficient Europe (COM(2011) 571).
[9] http://www.eea.europa.eu/publications/COR0-landcover
[10] http://ec.europa.eu/environment/land_use/index_en.htm

3. POLICY ASPECTS

In its report on the implementation of the Soil Thematic Strategy[11], the Commission noted that the challenges presented by soil degradation make it important that the EU improves the way in which it deals with soil-related issues, particularly in the absence of Union legislation. Whilst the Soil Thematic Strategy has helped raise the profile of these issues, there is still no systematic monitoring and protection of soil quality across Europe some five years after its adoption. This means that knowledge about the status and quality of soils remains fragmented and soil protection is not undertaken in an effective and coherent way in all Member States. The Commission went on to remark that results from LUCAS could be a starting point for harmonised European monitoring of soil parameters for a whole range of statistical, research and policy purposes.

[11] Report from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: The implementation of the Soil Thematic Strategy and ongoing activities (COM(2012) 46).