

Overview of the Development of EU Soil Policy: towards a EU Thematic Strategy for Soil Protection

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The European Commission is at the last stages of preparing a strategy to ensure that Europe's soils remain healthy and capable of supporting human activities and ecosystems. Soil is essential to our economic activities as it provides us with food, drinking water, biomass and raw materials – and all our human activities are somehow related to soil. But soil degradation is accelerating across the EU, with negative effects on human health, ecosystems and climate change – and on our economic prosperity and quality of life. To reverse this trend, the Commission's strategy will set a common EU framework for action to preserve, protect and restore soil, but leaving Member States flexibility to implement it in a way which fits local situations best. The Thematic Strategy on soil protection will comprise a Communication and a legislative proposal which might require Member States to tackle threats such as landslides, contamination, erosion, organic matter decline, compaction, salinisation and sealing wherever they occur, or threaten to occur, on their national territories. The Soils Strategy is number six of seven Thematic Strategies that the Commission is presenting, in accordance with the 6th Environmental Action Programme.

I. Introduction

Soil is generally defined as the top layer of the earth's crust, formed by mineral particles, organic matter, water, air and living organisms. Its formation is an extremely slow process, hence it can be considered essentially as a non-renewable resource.

Soil, an extremely complex and variable medium, provides us with food, biomass and raw materials. It serves as a platform for human activities and landscape and as an archive of heritage and plays a central role as a habitat and gene pool. It stores, filters and transforms many substances, including water, nutrients and carbon. In fact, it is the biggest carbon store in the world. These functions must be protected because of both their socio-economic and environmental importance.

Soil degradation is a serious problem in Europe. It is driven or exacerbated by human activity such as inadequate agricultural and forestry practices, industrial activities, tourism, urban and industrial sprawl and construction works. These activities

have a negative impact, preventing the soil from performing its broad range of functions and services to humans and ecosystems. This results in loss of soil fertility, carbon and biodiversity, lower water-retention capacity, disruption of gas and nutrient cycles and reduced degradation of contaminants.

The main degradation processes to which soils are confronted to in Europe are: erosion, decline in organic matter, local and diffuse contamination, sealing, compaction, decline in biodiversity, salinisation, floods and landslides.

Given the importance of soil and the need to prevent further soil degradation, the Sixth Environment Action Programme¹ called for the develop-

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¹ Decision No. 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 laying down the Sixth Community Environment Action Programme (OJ 2002 L 242/1).

ment of a Thematic Strategy on Soil Protection. As a first step, in 2002 the Commission presented a Communication.²

II. Existing legislative framework for soil protection

1. European policy background

Soil has not, to date, been subject to a specific protection policy at EU level.

Different Community policies contribute to soil protection, particularly environment and agricultural (agri-environment and cross-compliance) policy. However, provisions in favour of soil protection are spread across many areas and, to the extent that they often aim to safeguard other environmental media or to promote other objectives, do not constitute a coherent soil protection policy. This means that even if exploited to the full, existing policies are far from covering all soils and all soil threats identified. Hence, soil degradation continues.

a. Links to objectives from other environmental legislation

Community water legislation aims to secure good quantitative, qualitative and ecological quality of all water (Water Framework Directive³), to avoid contamination of waters with nitrates from agricultur-

al sources (Nitrates Directive⁴), to ensure ground water quality⁵ and to prevent floods.⁶ This is done by, for instance reducing direct and indirect inputs of pollutants, including sources on or in the soil, and measures to prevent floods. Eroded, contaminated, sealed or excessively fertilised soil contributes to surface or groundwater quality deterioration and flooding. Hence preventive and remedial actions to combat soil degradation will lead to improved water quality and less flood events.

Less soil contamination as a result of the remediation of contaminated sites and actions against diffuse pollution will contribute to the objectives of the Community air legislation aiming to maintain ambient-air quality where it is good and improve it in other cases. On the other hand, reduced air emissions imply less atmospheric deposition of dangerous substances into the soil, hence less soil contamination.

Soil protection objectives are present in the Waste Framework Directive,⁷ which requires that waste is to be disposed of without endangering, inter alia, the soil, and other specific waste legislation.⁸ For example, the Sewage Sludge Directive⁹ regulates the use of sewage sludge in agriculture in such a way as to prevent harmful effects on soil. The recently adopted Directive on the management of waste from extractive industries¹⁰ requires the drawing up of inventories of closed waste facilities, six years from the entry into force of the Directive. The general soil protection objective of the Waste Framework Directive can be coupled with the objective to promote the recycling of waste in the context of the Thematic Strategy on prevention and recycling of waste.¹¹

In chemicals legislation, in particular under the Directives on Authorisation of Plant Protection Products¹² and on Biocidal products,¹³ the work on the upcoming proposal for a Thematic Strategy on the sustainable use of pesticides¹⁴ as well as the REACH proposal¹⁵ recognise the importance of soil protection.

Biodiversity will generally benefit from all actions proposed for the different threats. Improved soil biodiversity will contribute to achieve the objectives to halt the decline of biodiversity by 2010 as laid down in the Communities Sustainable Development Strategy,¹⁶ the need to integrate biodiversity into soil policy¹⁷ and support the Habitats Directive,¹⁸ aiming directly at preserving i.a. a number of terrestrial habitats that depend on spe-

2 COM(2002) 179.

3 Directive 2000/60/EC.

4 Directive 91/676/EC.

5 COM(2003) 550.

6 COM(2004) 472.

7 Directive 75/442/EEC.

8 Directive 1999/31/EC, Directive 2000/76/EC, Directive 91/271/EEC and Decision 2003/33/EC.

9 Directive 86/278/EEC.

10 Directive 2006/21/EC.

11 COM(2005) 666.

12 Directive 91/414/EEC.

13 Directive 98/8/EC.

14 COM(2002) 349.

15 COM(2003) 644.

16 COM(2001) 264.

17 Malahide declaration, see: <http://biodiversity-chm.eea.eu.int/stories/STORY1087980667/>.

18 Directive 92/43/EEC.

cific soil characteristics, such as dunes, peat lands, calcareous grasslands and wet meadows.

The expansion of cities into the surrounding rural areas, known as urban sprawl, is an important concern of the Community policy on the urban environment and relates to the Thematic Strategy on the urban environment.¹⁹ Activities aiming at limiting urban sprawl and ensuring the rational use of the land will contribute to reduce soil sealing.

Natural resources include both the raw materials necessary for most human activities often extracted from soil, and the different environmental media, such as air, water and soil, which sustain life. Careful management of the use of these resources is a basis for sustainable development as described in the Thematic Strategy on the sustainable use of natural resources.²⁰

b. Links to other Community policies

In the 2003 Common Agriculture Policy reform²¹ obligatory provisions were introduced for farmers receiving direct payments to respect specific statutory management requirements and maintain land in Good Agricultural and Environmental Condition (cross compliance). Member States are required to define such (GAEC) at national or regional level, including for soil erosion, soil organic matter and soil structure through the establishment of standards. These standards concern minimum soil cover, minimum land management reflecting site specific conditions, the retention of terraces, standards for crop rotations where applicable, arable stubble management and appropriate machinery use. Furthermore, Member States are required to define a minimum level of land management with regard to livestocking rates and/or appropriate regimes, the protection of permanent pasture and the retention of landscape features.

As regards rural development, some Member States have used, in the current programming period, i.a. the agri-environmental measures to combat various soil threats. They will have this possibility again in the next programming period (2007-2013). In addition, the baseline for most of the measures of Axis 2 of the new Rural Development Regulation will be cross-compliance at the minimum.

Structural fund programmes have as a general and compulsory objective to contribute to sustainable development, and many measures in these programmes contribute directly or indirectly to the

improvement and protection of soil. Examples are erosion and flood prevention, rehabilitation of derelict and polluted land and measures for sustainable tourism and leisure. Identification of risks areas for the different soil threats, an inventory for contaminated sites and mechanisms to finance the remediation of 'orphan sites' will be valuable to make funding more efficient.

c. Why is this not enough?

Why the Water Framework Directive is not enough?

Achieving the objectives of the WFD will entail changes in practices in soil management and the protection of some soils, but only where soil degradation hinders water quality. It addresses soil as far as it is a pressure to water but does not provide a protective regime for soil in all circumstances and does not ensure a sustainable use of soil as a non renewable resource in Europe.

Why the reform of the CAP and the standards for soil protection under cross compliance are not enough?

Though significant benefits can be expected from linking the direct payments to farmers to the application of some soil-friendly agricultural practices, these measures are not obligatory everywhere, they are just a precondition to receive payments for the farmers who are under the payment regimes (not all markets are under these regimes). Some farmers do not receive payments hence are not bound to adopt these soil-friendly practices. There again cross-compliance will only contribute to the soil preservation in a partial way.

2. National policy background

Specific legislation on soil as an environmental media exists only in few Member States (f.i. the Netherlands, Germany, some Austrian regions). Most Member States have included some soil protection aspects in general environmental or agriculture legislation, thereby addressing the issue in a fragmented way and not comprehensively address-

¹⁹ COM(2005) 718.

²⁰ COM(2005) 670.

²¹ Regulation (EC) No. 1782/2003.

ing all threats to soil as identified. Specific legislation on soil contamination exists in less than a dozen Member States, though other countries have some soil contamination provisions embedded in other legislation concerning, for instance, waste or pollution prevention. It appears that obligations and legislative acts differ significantly in approach and level of detail.

Different action plans have been established, such as in England (soil strategy), France (action plan on soil management), and Slovenia (National Environmental Action Programme). Moreover some Southern (Greece, Italy, Portugal and Spain) and some Eastern Member States, being affected areas, have adopted or are in the process of adopting Regional Action Programmes and National Action Programmes under the United Nation Convention to Combat Desertification (UNCCD).

3. International policy background

The 1972 Council of Europe's Soil Charter, revised in 2003, called on States to promote a soil conservation policy, and the World Soil Charter (FAO 1982) and the World Soils Policy (UNEP 1982) sought to encourage international co-operation in the rational use of soil resources. As a result of the Earth Summit in Rio de Janeiro in 1992 and the Johannesburg World Summit on Sustainable Development, several conventions with consequences for soil protection were launched.

The 1992 UN Framework Convention on Climate Change (UNFCCC) recognises the role and importance of terrestrial ecosystems as sinks of greenhouse gases and that land degradation problems and changes in land use can exacerbate the emission of gases to the atmosphere. The 1997 Kyoto Protocol promotes sustainable development and calls on each party to implement policies and measures to protect and enhance sinks and reservoirs of greenhouse gases, e.g. soils.

Soil biodiversity issues are addressed by the 1992 Convention on Biological Diversity (CBD), aiming to conserve biological diversity, encouraging the sustainable use of its components, and sharing the benefits arising out of the utilisation of genetic resources. Fundamental to the CBD is the concern that biological diversity is being significantly reduced by human activities, including soil and land management.

The 1994 UN Convention to Combat Desertification (UNCCD) aims to prevent and reduce land degradation, rehabilitate partly degraded land and reclaim desertified land through effective actions supported by international co-operation and agreements.

The 2001 Stockholm Convention on persistent organic pollutants (POPs), requires that the Parties endeavour to develop appropriate strategies for identifying sites contaminated by POPs.

Under the Alpine Convention aiming at protecting the Alpine region, the Protocol on Soil Protection seeks to preserve the ecological functions of soil, prevent soil degradation and ensure a rational use of soil in that region. It includes a series of principles and measures pertaining in particular to contamination, erosion and soil sealing.

Several important trading partners, including the USA, Japan, Canada, Australia, Brazil and several developing countries have established soil protection policies which include legislation, guidance documents, monitoring systems, identification of risk areas, inventories, remediation programmes and funding mechanisms for contaminated sites for which no responsible party can be found.

III. Need for EU Action on soil

The 6th Community Environment Action Programme requires the development of a Thematic Strategy on soil protection 'addressing the prevention of, inter alia, pollution, erosion, desertification, land degradation, land-take and hydrological risks taking into account regional diversity, including specificities of mountain and arid areas'.

The Institutions have broadly welcomed the analysis and proposals for solution contained in the 2002 Communication launching the debate on soil protection at EU level. In particular, the Council:

- 'underlined the need for appropriate Community action to protect soil and provide for its sustainable use. It should take already existing Community policies and measures and subsidiarity appropriately into account;
- considered that the proper functioning of the single market may require also a common approach to soil policy, insofar as its protection and remediation at all relevant levels may also affect competitiveness.

- requested the Commission to bring forward the Thematic Strategy for Soil Protection, based on an integrated approach and with a comprehensive and long-term perspective with a view to maintain the vital functions of the soil, which should include where appropriate relevant qualitative and quantitative targets and timetables, general principles for assessing and managing the threats, as well as identify actions for its implementation, including appropriate sustainable use and soil protection measures. It should also consider the possible long distance degradation effects of some human actions including inappropriate soil management, in particular through water and air pollution.’

Important reasons call for an intervention at EU level, such as:

- *Soil is a natural resource of common vital interest with an impact on other EU policies*
Although mainly privately owned, soil is a vital resource of common interest at EU level. Failure to protect it will undermine sustainability and long-term competitiveness in Europe. Soil degradation has a negative impact on other areas also of common interest, such as air and water quality, biodiversity and climate change.
- *Distortion of competition in the internal market*
The wide differences between national soil protection regimes, in particular as regards soil contamination, can in some cases impose very different obligations on economic operators, thus creating an unbalanced situation for fixed costs. On the other hand, the absence of such regimes can also hinder private investments. The Directive on environmental liability²² creates a harmonised framework for the liability regime to be applied across Europe when land contamination creates a significant risk to human health. However, it does not apply to historical contamination or damage prior to its entry into force.
- *Impacts in other areas*
Soil degradation has negative impacts on other areas also considered of common interest, such as quality of air and water, biodiversity and climate change.
- *Transboundary impacts*
Soil, though generally immobile, is not completely so and therefore degradation in one Member State or region can have transboundary consequences. Losses of soil organic mat-

ter in one Member State impair achievement of the EU’s Kyoto Protocol targets. Dams are blocked and infrastructure is damaged downstream by sediments from massive erosion further upstream in another country. Groundwater in bordering countries is polluted by contaminated sites on the other side of the border. Therefore it is of outmost importance to act at source to prevent damage and subsequent remedial actions, otherwise costs to restore environmental quality may be borne by another Member State.

- *Food safety*
Uptake by food and feed crops of contaminants in the soil may have an impact on the quality of products which are traded freely within the internal market and hence pose a risk for human or animal health by increasing the intake of dangerous substances. Acting at source will complement the quality controls performed to ensure food safety. Indeed food safety legislation imposes some maximum contents for a limited number of contaminants, and these limit values are established taking into account not only the daily tolerable intake but also the environmental background concentration, in order to realistically ensure food supply. Moreover, food and feed controls are carried out on a limited number of samples chosen at random, hence there is no obligation to check all the food and feed put on the market.
- *Human health*
The health of European citizens can be impaired in different ways by soil degradation, for instance via the exposure to soil contaminants by direct ingestion (children in playgrounds) or indirect intake (through contaminated food or drinking water). Equally, casualties may occur in the event of landslides.
- *International dimension*
Soil degradation is subject to increasing attention in International Agreements and Charters. The European Union, by establishing an ambitious and coherent framework which will translate into a better knowledge and management

22 Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage (OJ 2004 L 143/56).

of soil, can play a leading role internationally, facilitating the transfer of know how and technical assistance.

- *The Community acquis has not hitherto sufficiently ensured soil protection*

Although different Community policies can be expected to contribute to soil protection (see section II.3.c.), provisions concerned are fragmented and do not represent a coherent soil protection policy. Hence, soil degradation continues.

Therefore there is a need for actions at EU level in order to ensure that the requirement of Article 174 of the EC Treaty are met, because the objectives of the strategy cannot be sufficiently achieved by the Member States and can therefore be better achieved by the EU.

IV. Objectives and actions

A comprehensive EU strategy for soil protection is required. This strategy should take into account all the different functions that soils can perform, their variability and complexity and the range of different degradation processes to which they can be subject, while also considering socio-economic aspects.

The overall objective is protection and sustainable use of soil, based on the following guiding principles:

- (1) Preventing further soil degradation and preserving its functions when:
 - soil is used and its functions are harnessed, thereby action has to be taken on soil use and management patterns, and
 - soil acts as a sink/receptor of the effects of human activities or environmental phenomena, whereby action has to be taken at source;
- (2) Restoring degraded soils to a level of functionality consistent at least with current and intended use.

These objectives could be achieved through 4 main pillars:

- (1) framework legislation with protection and sustainable use of soil as its principal aim;
- (2) Integration of soil protection in the formulation and implementation of national and Community policies on, inter alia, agriculture, regional

development, transport and research have a significant impact on soil. Soil protection will need to be further reflected in other policy areas, if the objectives are to be met.

- (3) closing the current recognised knowledge gap in certain areas of soil protection through research supported by Community and national research programmes;
- (4) increasing public awareness of the need to protect soil.

The European Commission is preparing its proposal which is not yet adopted at the time this article is written. Several elements are being explored and assessed to decide whether to include them in the proposal for a legislative instrument.

Among the elements being assessed and explored are the obligation to identify risk areas for erosion, organic matter decline, compaction, salinisation and landslides and the possibility of requiring Member States to establish programmes of measures in those areas.

With respect to management of contamination, among the elements being explored are setting a common definition of contaminated sites based on risk to human health and the environment, and a common list of potentially soil-polluting activities, which could be used for Member States to identify the contaminated sites on their territory and to establish a national remediation strategy. Moreover, preventive requirements are of course also being considered.

As regards sealing, different possibilities to limit or mitigate the effects of sealing are being considered.

The European Commission will adopt the proposal for a Thematic Strategy on soil protection which will be then transmitted to the other Community institutions to follow the legislative process. This Thematic Strategy will pave the way for a long term European policy that will ensure the protection and sustainable use this non renewable natural resources vital for Europe's present and future.

As cooperation is a key feature of this new strategy, the Commission will set up a Common Implementation Strategy for the Framework Directive and the other elements of the strategy, in partnership with Member States and stakeholders.