DEVE-011

Brussels, 3 March 2003

OPINION

of the

Committee of the Regions

(of 12 February 2003)

on the

Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions -

Towards a Thematic Strategy for Soil Protection

COM(2002) 179 final

The Committee of the Regions,

HAVING REGARD TO the Communication from the European Commission "Towards a Thematic Strategy for Soil Protection" (COM(2002) 179 final);

HAVING REGARD TO the decision of the European Commission of 12 April 2002 under Article 265(1) of the Treaty establishing the European Community, to consult it on this matter;

HAVING REGARD TO the decision taken by its Bureau on 12 March 2002 to instruct the Commission for Sustainable Development to draw up an opinion on this subject;

HAVING REGARD TO its Opinion on the Sixth Environment Action Programme, CdR 36/2001 fin;[1]

HAVING REGARD TO the Draft Opinion (CdR 190/2002 rev. 2) adopted on 12 December 2002 by the Commission for Sustainable Development (Rapporteur: **Mr Corrie McChord**, Leader of Stirling Council Viewforth, UK/PES);

adopted the following opinion at its 48th plenary session of 12/13 February 2003 (meeting of 12 February):

1. **Introduction**

1. The Committee of the Regions (CoR) welcomes the proposal for a thematic strategy for soil protection which is required by the European 6th Environmental Action Programme "Environment 2010: Our Future, Our Choice".

2. The CoR offers some specific comment on the Communication and suggests a more structured approach to the development of the strategy with a particular emphasis on:

- defining a vision for the sustainability of European soils;
- constructing a set of use-based quality indicators and associated targets, and a pragmatic and local risk-oriented and cost-effective programme of protection;
- coordinating action through existing regulatory tools and incentives; and
- identifying options for additional controls in future years to progressively remedy historical problems.

3. The CoR believes that the soils of Europe are fundamental to our livelihoods and are also of vital importance in ensuring the livelihoods of people in other countries outside Europe. They provide our sustenance through agricultural production. They provide essential raw materials for timber growth and extraction. They are an essential component of landscape, they support all terrestrial biodiversity, mediate our surface and groundwaters, and have a profound influence on the atmosphere. They also play a key role in providing deposits of raw materials. They have enormous cultural and social significance. Yet soils have suffered a degree of deterioration through a combination of complacency and neglect.

4. This situation has in part arisen because European soil has not been sufficiently protected by legislation since it is not culturally regarded as a common resource in the same way as rivers, lakes, seas and the atmosphere. Inevitably this makes any voluntary or regulatory action to protect soils more contentious and the development of a workable and effective European soil protection strategy must therefore recognise and address two factors: proper, indispensable exploitation of the land surface on the one hand, and the desire to protect and sustain a common resource on the other.

5. The CoR believes that the time is right to meet this challenge and to ensure a long-term and sustainable future for soils.

2. **The Committee of the Regions' views**

1. *Definition (Section 2 of Communication)*:

1. The CoR supports the widest possible definition of soils. In the past difficulties have arisen, for example, in the exclusion of peat as a soil due to its entirely organic nature. It is important that soils are defined to ensure protection of the entire land surface of Europe. [Definitions concerning other environmental goods serve as examples, e.g. the distinction between groundwater and surface water in the German Soil Protection Law (§ 2, section 1)]

2. *Distinctive Features of Soil (Section 2.3 of Communication)*:

1. The Communication indicates that there are over 320 soil types across Europe and emphasises that a strong local element needs to be built into protection

policies. This is certainly true but soil is also highly heterogeneous in nature with considerable variations in composition and ecological assemblages and functions within small horizontal and vertical scales. One therefore needs to be aware of the interdependence of different soil types and to bear this very much in mind when defining the protection strategy.

2. Soils normally contain a vast wealth of biodiversity, particularly microbiological, comprising bacteria and fungi, which live in close harmony with overlying vegetation and root systems and forms a complex food web with higher order species. These ecological assemblages provide the essential environmental functions of energy flow, carbon and nutrient turnover and help create soil structure. Although research is indicating a degree of resilience in soil ecology so that natural or anthropogenic impacts which may adversely affect some key species can be replaced by other species and allow the environmental function to continue, there is also emerging evidence that some keystone species, such as the earthworm (*Lumbricus terrestris*), are vital to the creation and maintenance of the soil structure itself in semi-natural systems. Any protection strategy must deliver soils which maintain sustainable environmental functions and in particular natural soil functions.

3. The resilience of ecological assemblages in soils is no doubt an evolutionary reflection of the extreme conditions to which they are naturally exposed including flooding, drought, freezing and thawing. The impact of these natural processes must be allowed for within a practical and realisable protection strategy.

3. *Main Threats to Soil (Section 3 of Communication)*:

1. The principal threats are well summarised in the Communication although it is worth noting that decline in organic matter and loss of soil structure are significant contributors to enhanced erosion. In point 3.2 of the Communication a limit value of 3.6% soil organic matter content is given as an indicator of a pre-desertification stage; this figure requires technical revision. The loss of permafrost zones is also increasingly seen as a threat, as is anecdotal evidence of changing weather patterns leading to enhanced drought/flood cycles which may promote upland erosion in particular.

2. The extent and degree of the impact of Chernobyl fallout appears to be underplayed. There are still significant areas of soil and vegetation contamination from radioactive caesium, which has leached much more slowly than was initially predicted, particularly in peaty and sandy soils which are low in potassium. There has been greater uptake in vegetation and transmission through foodchains affecting livestock and sporting interests, e.g. deer hunting in mountainous areas. The impacts on biodiversity are unknown.

3. The wrong land and soil management practices have the potential to introduce pathogenic material which may be passed to man through natural food chains. It is important that bio-security and food security issues are addressed within a soil protection strategy.

4. The more general issues relating to the introduction of alien species deserves further consideration. It is important to be confident about the potential impacts of introducing GMOs to the environment and the potential for the release of genetic material into soils. In addition, some introduced species such as the New

Zealand flatworm appear to have the potential to reduce the numbers of the common earthworm with severe effects on soil structure and thereby function and form, while Japanese Knotweed (*Fallopia japonica*), for example, is largely spread through soil translocation.

5. Diffuse contamination should perhaps be renamed diffuse pollution of soils since there are clearly observable effects. Extensive areas of land are suffering from acidification and eutrophication leading to changes of natural vegetation, associated soil biota, and deterioration of associated freshwater ecological status. It is apparent that, although major steps have been taken to reduce sulphur emission and deposition, there remain difficult problems with nitrogen emissions from transport and from agriculture. Atmospheric deposition of heavy metals can account for between 38% and 97% of total metals input to agricultural land in the UK. Further monitoring and research on atmospheric deposition of acidifying species, nitrogen and heavy metals to soils still needs to be undertaken.

6. Europe contains many soils which are rich in carbon. It is vital that these carbon stores are protected in order to contribute to the control of climate change, particularly since rising global temperatures will drive positive feedback. This represents an important contribution to the 6th Environmental Action Programme's priority of tackling climate change.

2.3.7 The Commission document does not properly address land loss resulting from urban expansion (soil sealing) and the development of brownfield sites. The accession funds for the candidate countries pose some problems in this respect. Soil sealing can be and should be reversed where practical. The European Spatial Development Perspective (ESDP) should be more widely promoted as part of efforts to pursue an integrated soil protection strategy.

2.3.8 Concerning floods and landslides, the Commission document does not mention the issue of decreasing human population in mountain and rural areas, especially in the farming and forestry sector. The effect of precipitation is increasingly less likely to be offset by agricultural activity and intelligent land management.

4. *Action Taken by Member States (Section 5 of Communication)*:

1. It is abundantly clear that there is considerable divergence in approach to soil and land protection within the existing and applicant Member States. The report "Soil Protection Policies within the European Union", December 1998, in summarising the individual systems in place, raises the question as to whether the full added value is being achieved of a more concerted approach across Europe leading to more harmonised standards and concerted protection of water systems in cross boundary catchments, harmonised action on reduction of diffuse and trans-boundary problems with contamination, and a coordinated approach to global threats such as climate change.

2. There are particularly significant differences in action taken to ameliorate historical problems associated with contaminated land, and also derelict and vacant land. It is worth noting that although the forthcoming European Environmental Liability Directive will exert control over new contaminated sites there will be no control of legacy problems. A proposed soil protection strategy must identify this necessary remedial work, to be undertaken according to common risk-based objectives, as a significant issue for the future. To reclaim

previously contaminated land, appropriate incentives and public-private cooperation measures must be established, excluding all forms of retroactive liability. Such processes must be designed to encourage economic and environmental compatibility of reclamation work, to be undertaken on the basis of risk analysis.

5. *Community Policy Relevant for Soil Protection (Section 6 of Communication)*:

1. Process regulation and waste regulation offer direct protection to land, however limited in area extent, whereas water pollution and habitats legislation offer only indirect protection.

2. It should be noted that the Sewage Sludge Directive *per se* does not completely prevent harmful effects on soil since control is focused on preventing soil contamination and disease transmission. The application of sludge, particularly in combination with other agents such as inorganic and organic fertilisers, can result in soils becoming eutrophic. Furthermore, the application of sewage sludge under unsuitable conditions can result in compaction and deterioration of physical structure. The Directive currently does not control other wastes which are applied to farmland, including paper mill sludge, food waste, lime waste, gypsum and compost, all of which may cause contamination and disease transmission if poorly managed.

3. The requirements of the Bathing Water Directive have also driven soil and land management controls in areas where failures against the mandatory standard can be related to diffuse agricultural run-off and sub-surface flow of faecal indicator organisms.

4. The CoR welcomes the opportunities for CAFÉ, CAP reform and the Water Framework Directive to contribute to strengthening the delivery mechanisms for soil protection. In particular the communication on planning and the environment will be entirely consistent with the 6th Environment Action Programme's requirement to integrate environmental concerns into other policies.

5. It should be noted that transport corridors can, if managed correctly, provide a positive contribution to biodiversity. Extensive and ecologically protected verges can provide long-distance migration pathways which are often absent, particularly in intensively managed agricultural areas.

6. While it is clear that various policies contribute to soil protection, it must be recognised that their role in soil protection is often not realised and that insufficient links are made between the different policies. For example, the degree of protection provided to soil by the assessment of new and existing substances is questionable given the limited numbers of chemicals being reviewed and the lack of robust consideration of their impact on soil and its complex ecological systems.

2.5.7 The Commission describes good agricultural practices to be encouraged, and the positive agri-environmental measures in force regarding soil protection. However, the document lacks clear guidelines and support to guarantee - via the CAP - more effective overall monitoring of the soil.

6. *Existing Soil Data Gathering Systems (Section 7 of Communication)*:

1. Traditional soil sampling and analysis is sometimes time-consuming and resource-intensive, partly due to the heterogeneity of soils (see Section 3.2 of this communication) and partly to the lack of understanding of the complex physico-chemical and ecological processes which contribute to the overall functioning of soils. This drives multi-replicate sampling and analysis for a potentially very large range of determinants. Such an approach demands an urgent and fundamental review in order to arrive at simpler, more cost-effective, and ecologically relevant reporting schemes, satisfying clear objectives on a pan-European basis. Nevertheless, experiences with and knowledge from existing monitoring systems should be integrated into a European system.

7. *The Way Forward (Section 8 of Communication)*:

1. The CoR is supportive of the proposal to extend the annexes of the Habitats Directive to include soil-based protection. It is worth noting that a major research programme on soil biodiversity has been running in the UK where the most studied soil site in the world is being maintained for the next five years.

2. Action is certainly required to ensure integration of environmental, common agricultural and other relevant policies to provide a more coherent, comprehensive and systematic protection scheme. An inter-service steering group within the Commission is essential to ensure delivery.

3. **The Committee of the Regions' recommendations**

1. The CoR considers that, at heart, a strategy should comprise an analysis of the current position, a vision for the future, and a series of phased actions by which the vision can be attained. This should be combined with a programme for measuring and monitoring progress and outcomes.

2. The Communication provides a reasonable analysis of the current position by summarising many of the driving forces, pressures, impacts and currently available remedial measures in place.

3. The Communication does not, however, provide a vision for the future state of European soils. This need not be difficult or complicated, despite the variability of soil function and form outlined above.

4. *Vision*:

1. Essentially we must aim to prevent further soil degradation and for soils throughout Europe to be "fit for purpose" within a generation, and thereafter to be managed on a fully sustainable basis. The term "fit for purpose" introduces a pragmatism and realism to the strategy which is essential for it to be workable.

2. The range of purposes could include:

- support for biodiversity, within the soil and dependent upon it;
- mediation and buffering of ground and surface waters to maintain good ecological status and satisfactory quality for other end uses such as recreation, bathing, potable supply;
- agricultural and forestry production;
- maintenance of carbon storage;

- human development;
- human settlement;
- raw material deposits.

3. Purposes should be ascribed at a broad scale to all land surfaces across Europe, defaulting to the most demanding ascribed purpose, or combination of purposes. The concept of land classification and land suitability systems for different end uses, based on soil type, location, climate, altitude, aspect and gradient, should be integrated within the strategy.

5. *Actions to Attain the Vision*:

1. The title "soil protection strategy" suggests that it will achieve only a holding position so that soil quality no longer deteriorates in Europe. This is a worthy aim in itself. The Strategy must state clearly whether it is restricted to that particular, and somewhat limited, ambition or whether it aspires to look further ahead and to illustrate the means by which improvement of quality can be actively promoted, and legacy problems, such as contaminated land, can eventually be resolved. At the very least a worthwhile Strategy must take account of those longer-term ambitions in the way it is structured and set targets and evaluate the achievement of protection in a way which is underpinned by the accumulation of data and information. The subsidiarity principle should be strictly adhered to in the drawing-up of a strategy for soil protection and in the formulation of new provisions. Many problems connected with soil protection can also be resolved at national level or on a bilateral basis between Member States or regions or other local structures with direct responsibility for soil protection.

2. The Strategy must be holistic and integrative. It would be inadvisable to develop separate initiatives on erosion, organic matter decline and contamination (particularly in relation to sewage sludge, compost and mining waste), as proposed.

3. The definition of soil use must allow for the derivation of appropriate local and customised soil quality standards. For some specific uses, such as human settlement or human development, these standards may be set in terms of significant chemical parameters related to risk exposure of the population determined by their activities, thereby supporting the 6th Environmental Action Programme's initiative on linking environment to human health. For other uses, such as support of biodiversity, then more general quality parameters should be developed through a European research programme. It is essential that simple, cost-effective and ecologically relevant test techniques are made available. There is potential for simple bait tests, community level physiological profiling of microbiological communities, biosensors or biomarkers to provide a rapid and meaningful set of standardised tests which can be calibrated across Europe against near-natural soils to create a system by which the ecological status of a measured soil can be judged. This approach would mirror the exemplary approach taken in the Water Framework Directive where targets of excellent and good ecological status are set for surface waters, except where heavily modified by human development in which case good ecological potential is expected.

4. Standardised methodologies, with appropriate quality control, are a pre-requisite for instituting coordinated soil quality assessments across Europe.

5. Following assignment of uses of soils, and assessment of their quality against appropriate standards, a local risk assessment analysis should determine which soils should be protected as priorities and which can be protected most cost-effectively, taking into account the scale of various pressures on soils.

6. Such a European-wide framework for action will generate a level-playing field and underpin the targeting of scarce resources through more locally based action plans in order to limit the impact on the environment as much as possible.

7. The Strategy should then identify currently available tools and suggest ways in which they can be operated to greatest effect so that Member States begin to develop best practice and a common awareness of practical and efficient methodologies. For example, the Water Framework Directive will require measures to be adopted within river basins or sub-basins to combat diffuse pollution. Many of these measures will inevitably interface closely with soil and land management issues and could be used to protect or enhance soil quality (for example – the land management contracts used by farmers in France). These synergies must be optimised in advance of identifying any further regulatory regimes which may be required to address gaps.

8. An essential component of a successful strategy must involve active participation of various stakeholders. Since most land is privately owned, the 6th Environmental Action Programme's concept of "working with the market" is particularly important. New ways of involving soil and land managers, as well as other social sectors, will be essential to a successful outcome. This should be a major strand of the strategy.

6. *Workplan and Timetable*:

1. It seems realistic to publish the Strategy or its proposed component parts in 2004, accepting that some supporting research outputs may not be available by then. The CoR again emphasises that it would like to see an integrated strategy rather than a set of disaggregated pressure/soil/region/response specific components. The rules existing in regions and local authority areas and the criteria on which they are based should be taken into consideration.

2. The period over which the Strategy will be operable is not defined. Ideally it should extend well into the future, at least ten years, allowing for longer-term planning and a commitment to move from mere protection to eventual remediation and to the preparation of further supporting advisory or regulatory material in the light of emerging monitoring results and analysis of action effectiveness. A mid-term review would therefore clearly be necessary for a ten-year strategy.

3. A strategic framework for soil protection leading to longer term soil remediation will provide applicant countries with the mandate to preserve what is ecologically valuable in their soil and land management practices and, at the same time, prevent any risk of deterioration through increased rates of development following entry to the European Union. Applicant countries also have significant historical soil contamination and degradation problems which will need to be confronted and addressed in a rolling risk-based programme over many years.

Brussels, 12 February 2003.

The President of the Committee of the Regions	The Secretary-General of the Committee of the Regions
Albert Bore	**Vincenzo Falcone**

[1] OJ C 357, 14.12.2001, p.44

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