



The impact of soil degradation on soil functioning in Europe

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The European Commission has presented in September 2006 its Thematic Strategy for Soil Protection. The Thematic Strategy for Soil Protection consists of a Communication from the Commission to the other European Institutions, a proposal for a framework Directive (a European law), and an Impact Assessment. The Communication (COM(2006) 231) sets the frame. It defines the relevant soil functions for Europe and identifies the major threats. It explains why further action is needed to ensure a high level of soil protection, sets the overall objective of the Strategy and explains what kind of measures must be taken. It establishes a ten-year work program for the European Commission. The proposal for a framework Directive (COM(2006) 232) sets out common principles for protecting soils across the EU. Within this common framework, the EU Member States will be in a position to decide how best to protect soil and how use it in a sustainable way on their own territory. The Impact Assessment (SEC (2006) 1165 and SEC(2006) 620) contains an analysis of the economic, social and environmental impacts of the different options that were considered in the preparatory phase of the strategy and of the measures finally retained by the Commission. Since 2006 a large amount of new evidence has allowed to further document the extensive negative impacts of soil degradation on soil functioning in Europe. Extensive soil erosion, combined with a constant loss of soil organic carbon, have raised attention to the important role soils are playing within the climate change related processes. Other important processes are related to the loss of soil biodiversity, extensive soil sealing by housing and infrastructure, local and diffuse contamination by agricultural and industrial sources, compaction due to unsustainable agricultural practices and salinization by unsustainable irrigation practices. The extended impact assessment by the European Commission has attempted to quantify in monetary terms the actual economic impact of soil degradation in Europe. The total costs of soil degradation that could be assessed for erosion, organic matter decline, salinisation, landslides and contamination on the basis of available data, would be up to €38 billion annually for EU25. These estimates are necessarily wide ranging due to the lack of sufficient quantitative and qualitative data. Future research activities will have to address, in multidisciplinary teams, the social and economic aspects of soil degradation in Europe, in order to come up with more reliable estimates of the economic impact of soil degradation. A more reliable and updated system of indicators needs to be developed in order to cover the full cycle of the Driving forces-Pressures-State-Impact-Response (DPSIR) framework. Recent developments towards a new soil monitoring system for Europe will be presented as well as some of the recent outputs of the European Soil Data Centre (ESDAC).