

Financed research

Project title:	Elaboration of the Soil Degradation Subsystem (TDR) of the National Environmental Information System (OKIR)
Leader of the consortium:	Research Institute for Soil Science and Agricultural Chemistry, Hungarian Academy of Sciences
Partners:	-
Objectives of the project	<p>The project aims at:</p> <ul style="list-style-type: none"> - the production of soil data required for soil protection, - monitoring both soil state and environmental impact of agriculture, - in addition, the creation of an IT background in order to facilitate the implementation of directives specified in the EU soil protection strategy. - Furthermore, the project aims at publishing soil data and information in order to support the implementation of related public services and information to the public. <p>During this IT development project a Soil Degradation Information System (TDR) will be created as a part of the Hungarian Environmental Information System (OKIR).</p> <p>The participants of the consortium will carry out the following tasks:</p> <ul style="list-style-type: none"> -representative selection of agricultural holdings, -environmental load data collection at the selected holdings, -indication modeling, -soil data collection based on field sampling in representative sampling design, -soil state indication.
Results in 2010	<p>In the preparation stage several thematic working groups were formed for the implementation of the project. The working groups carried out their tasks in accordance with the project schedule.</p> <p>As a first task, the initial plan of soil monitoring was developed. The experimental design was determined and statistical tests were carried out related to the investigation's specific subquestions and hypotheses.</p> <p> Holding-classification methodology was developed by a dedicated working group based on the Hungarian Central Statistical Office's (HCSO) agricultural survey. At first, the intensity of the agricultural holdings was quantified and the holdings were grouped into 125 intensity categories. Based on this, quotas were determined and data sheets were made for every county. Altogether 285 agricultural holdings are to be chosen on a national scale.</p> <p>The "habitat typing" working group developed a methodology that differs from the one applied in the Hungarian soil and agrochemical practice, as - taking the slope conditions into account - the number of habitat categories expanded to 10 from 6.</p> <p>Several mapping data supply services were made available for the experts working in the project. They were given access to maps of the TDR habitat categories, the AGROTOPO database, the Reference</p>

	<p>Soil Sampling Spots Database and Corine Land Cover Database. Orientation is supported by a street map as a background and the layers of administrative boundaries of counties, subregions and settlements.</p> <p>A holding-selection guide and contact form were made for the experts of each county to ease the selection of the holdings according to the county quota.</p> <p>Regional experts and field assistants were trained and qualified.</p> <p>As an IT development task of the project, a communication and operation system was developed, which is available via web for project participants at the address http://terradegra.helion.hu/. The system supports user administration, communication with the participants, map-based selection of target areas, review of the workflow and also constitutes an IT background for field work.</p>
Economic and social benefits:	<p>By the analysis of the data provided by the OKIR-compatible soil degradation database (TDR), the soil-degradation effect of typical Hungarian agricultural practices will be demonstratable.</p> <p>The project will provide information on the type and extent of the soil degradation effect of agricultural use on different habitats, by the segregation of different types of agricultural holdings, and within them, different types of agricultural practices.</p> <p>Due to the project's results, the detected and quantified soil degradation effect of loads on different habitats will become generalizable and summarizable. Based on these results and the demonstrated connections, estimates on the geographical coverages may also be given.</p> <p>The TDR system will provide an opportunity to link selected data content from it with other OKIR services for the purpose of joined analysis. It will support data supply towards EU and national-level databases. Furthermore, it will serve as a web-based information service for the users involved.</p>
Entrepreneurs taking part in application:	<p>Szent István University Helion Mérnöki Tanácsadó és Szolgáltató Ltd. Fejér County Agricultural Office</p>