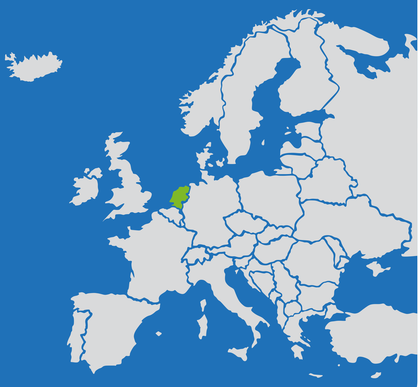
Soil: fertility, biological life and fighting against erosion



AGRI Innovation summit 2019

H2020 Multiactor Project

LAND Management: Assessment, Research, Knowledge base (LANDMARK)

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Practical problem

Soils are a finite resource that provide ecosystem services or "functions". Conflicting management and policies lead to trade-offs between these soil

Calendar

Start: 01/01/2015
End: 01/01/2019

Budget

Total amount:
€5,307,551

Partners

WUR, TEAGASC, UCPH, EC JRC, JSI, CIRCA, CALS, RIVM, AGES, INRA, ETHZ, SZIU, UA, APCA, CLUJ-NAPOCA, CAS, USP, US, UNIPARMA, SLU

Objectives of the project

The general objective of the project is to assess and quantify both the current and potential supply of, and demand for, soil functions across the European Union. These functions are determined by soil properties, environmental conditions, land use (i.e. arable, grassland, forestry) and management practices. The specific objectives are to develop: 1. Decision Support Tool (DST) for soil management for farmers and farm advisers at a local scale; 2. Monitoring scheme for soil functions, applicable at regional scale, for a range of soil types, land uses and pedo-climatic zones; 3. Policy framework for "Functional Land Management" for the EU to optimise the sustainable use of soil.

Main activities

The project team: a) adopted a multi-actor approach that brought together knowledge and resources from 22 partners (universities, research institutes, chambers of agriculture, JRC and SME). b) assembled a range of national and EU datasets on soil, climate and management. c) conducted 32 workshops to capture the variability of demands on soil across stakeholders from farm level to EU policy in: France, Ireland, Denmark, Austria, Germany and Brussels. d) Developed five expert-driven models to understand the drivers of the targeted soil functions. e) Sampled and analysed data collected from 94 sites across six climatic zones to test the monitoring schema. f) Is testing the Soil Navigator DSS.

Expected results

In August 2019 LANDMARK will launch the Soil Navigator, an on-farm, -in field Decision Support Tool for farmers and farm advisers to optimise management practices that support the supply of multiple soil functions. In October 2019 LANDMARK will deliver: a) a series of scientific papers describing a blueprint for a EU monitoring schema for the assessment of soil functions across six climatic regions and different land uses. b) Ten policy briefs describing a number of scenarios for future policy requirements and how to optimise the sustainable use of soil across EU. Those outcomes will contribute to the on-going discussion on the new CAP.

Results so far/first lessons

• The team de-mystified the language used for both soils and land management and how this varies across the EU by creating a common glossary, downloadable in five languages. • The opinions from 470 stakeholders involved in the workshops vary, both dependent upon where they come from and what their association with soil is, be it a farmer, local/national government, industry or policy maker. • A compilation of key indicators and management strategies for the five soil functions. • Assessment of which EU policies currently deal with soil quality and soil functions, development of six demand scenarios and supply maps for soil functions through Bayesian Belief modelling framework.

Who will benefit

Landmark is a multi-actor project working with a participatory approach with a broad range of stakeholders. The project is targeting those working on soil management aimed at sustainable food production such as: farmers and practitioners, chambers of agriculture and other extension services, EIP-AGRI Focus and Operational Groups, researchers from universities and applied research institutes, regulators and policy makers. LANDMARK will be completed in October 2019. For updates: Twitter (https://twitter.com/Landmark2020), website (http://landmark2020.eu/) and subscribe to the newsletter. Interested to test the soil navigator? Contact info.landmark@wur.nl.

Supported by: European Commission

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The Five Soil Functions