July, 2020

SQAPP

Christos Marinos-Kouris, ATHENA RC

Soil Quality Mobile Application (SQAPP) is an interactive tool designed inside the remit of the EU Horizon 2020-funded ISQAPER project. It aims at offering an easy-to-use tool that brings global soil data into the decision-making sphere of land users and other interested individuals. This application is being developed, tested and validated by scientists, practitioners, farmers, policymakers and agricultural service providers. It will provide an innovative soil quality assessment method for different pedo-climatic zones, integrating soil science with agricultural and land management practices. The soil quality indicators used are being modified and tested by farmers for farmers in Europe and China. The application can be tailored to provide farmers and other decision makers with science-based, easy-to-apply and cost-effective solutions.

Application scenario

Soil quality assessment for risk assessment and quality checks. Informed decision making for sustainable land use

Digital technologies

Machine Vision systems, Satellites, Geographic Information System (GIS), mobile application

Socio-economic impact

- Economic: improvement of food product value and farming field value
- Environmental: contributing to ecosystem resilience and sustainable farming practices, resource efficiency and environmental performance, and reduced impact on soil
- Social: wider adoption of sustainable management practices and recommendations for sustainable land use

More info: https://www.isqaper-project.eu/downloads/soil-quality-app-sqapp

Finally, through the use of SQAPP it is intended to upscale the results gathered, to examine the consequences of widespread implementation of land management practices and provide recommendations for integrating and promoting soil quality and sustainable land management into policy. In addition to the detailed research results, a number of key messages are provided for a range of stakeholders including farmers, advisors, policymakers and researchers.

DESIRA receives funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 818194. The content of this document does not reflect the official opinion of the European Union. Responsibility for the information and views expressed therein lies entirely with the author(s).

Purpose of the tool

The Soil Quality Mobile Application (SQAPP) is designed with the purpose of setting a new standard in soil quality assessment. It is an interactive tool for in-field soil quality assessment. This application is made for mobile devices for use anywhere in the world, and it provides location-specific soil quality information and sustainable land use management options. The provision of reliable data and knowledge, through the application, will help land users to evaluate the soil in their fields and to make well-informed decisions about its use. In this sense, it will facilitate access to information regarding alternative land use practices and support farmers in improving their land management.

Description of the tool

Soil Quality Mobile Application (SQAPP) provides available soil quality information for any location in the world, simply by the user selecting a location from a map. The selected area's soil information and properties are consequently shown to the user, supplemented with indicated possibilities for adapting the soil to the users' needs. The application calculates the soil quality relative to the average soil quality among areas with similar soil and climatic conditions (i.e. same pedo-climatic zones). Depending on the selected location, as well as soil properties, the application will also give an overview of possible soil threats that are classified based on general scientifically-based threshold values. The overview contains a summary of the overall threat level and highlights the most significant parameters as well as recommendations in order to safeguard the soil quality and avert threat risk.

Areas of socio-economic impacts

Social	Widespread adoption of sustainable land management practices, facilitates access to data, greater knowledge of the farm and decision-making.
Economic	Improvement of soil quality and food production leads to higher net worth of the farm and the retail prices of the goods produced.
Environmental	Improved ecosystem resilience.
	Providing detailed information on the environmental footprint of farming activities.
	Providing recommendations for sustainable land use and widespread adoption of sustainable land practices.