



GLOBAL ONLINE WEBINAR SERIES

RESEARCH FOR AGRICULTURAL
SOLUTIONS TO ADDRESS CLIMATE CHANGE

Monitoring systems and tools for healthy soils

FRIDAY, 24 JULY 2020



*Taking a closer look at technical issues
identified during the Koronivia Joint Work
on Agriculture workshops*

KEY MESSAGES

- **There's a wealth of science, information, knowledge and tools out there ready to be used for mapping and monitoring to promote healthy soils at farm level.** For example, **COMET-Farm** is already used to analyze on-farm soil carbon sequestration and greenhouse gas (GHG) emissions in the United States of America and is being further developed so that it can be applied in tropical conditions to serve broader global needs.
- Nobody can argue with the fact that **healthy soils provide multiple benefits**. It is not only about sequestering soil organic carbon, which can be used to offset emissions, it also concerns the broader picture of biological diversity, productivity, food security and all the ecosystem services.
- For the purpose of carbon trading, there is a continuous need for scientists to improve accuracy and validate models under specific geographic contexts. However, this should not be used as an excuse to delay action. **Because management practices are locally specific, local capacity development is crucial**, and **Re-carbonization of Global Soils (RECSOIL)** is ready to support countries.
- It is critical to remember that **farmers should be the direct beneficiaries**, as they will be the change-makers.
- Soil carbon as a solution to climate change has been addressed in previous COPs (COP21 to COP 25), but the **Koronivia Joint Work on Agriculture (KJWA)** offers a key opportunity looking ahead towards COP26. The only program under the United Nations Framework Convention on Climate Change (UNFCCC) to focus on agriculture and food security, **the KJWA provides an opportunity to clearly recognize that healthy soils are a “no-regrets” option to address climate change** (while providing multiple other benefits) which is ready to be deployed.



SHORT SUMMARY

Soil carbon sequestration is a key element of sustainable soil management as the preservation and enhancement of soil organic carbon in agricultural systems fosters effective nutrient cycling, enhances porosity, facilitates plant root growth, and reduces atmospheric CO₂ concentrations. Furthermore, fostering soil carbon sequestration can contribute to achieving Zero Hunger, enhance agricultural productivity, and improve sustainable and increased climate resilience.

COMET-Farm is a whole farm and ranch carbon and GHG accounting system used in the United States of America. By inserting the land management practice (crops, tillage regime, fertilizer regime), the tool calculates the farm's current carbon emissions (carbon baseline). The tool also suggests the most sustainable land management practices to increase carbon sequestration in the soil. COMET Planner is designed to provide approximate GHG mitigation potentials. Users can select the most appropriate conservation practices by selecting state, county, and land management type. COMET tools were developed to enable farmers to participate in voluntary markets and opportunities to reduce GHG emissions and sequester carbon in soils and perennial biomass.

RECSOIL initiative is designed for scaling up actions on the ground for sustainable soil management. These include several steps: (1) evaluate technical feasibility of the current soil organic carbon stocks and soil organic carbon sequestration potential; (2) work with committed farmers and farmer associations; (3) make an agreement between committed farmers and the RECSOIL initiative to deliver required technical support needed to improve soil health and increase carbon levels in soils; (4) provide technical support and financial incentives; (5) implement and adopt integrated and sustainable soil management practices; and (6) provide Measurement, Reporting and Verification (MRV) protocols. RECSOIL initiative will be implemented over an eight-year cycle, with the objective of creating a carbon market both for the green path and for voluntary carbon credits using private investment.

WORKSHOP OBJECTIVES

1. Share the latest technical development for measuring and monitoring soil health, soil organic carbon and soil fertility;
2. Recognize the market opportunities made possible by quantification and monitoring systems for soil health, soil carbon and soil fertility; and
3. Identify areas where further research is necessary to enable farmers, especially in developing countries, to implement solutions for measuring and monitoring soil health, soil carbon and soil fertility in accordance with national circumstances.

EVENT OUTLINE

Moderated by Mr Eduardo Mansur, Director of Land and Water Division, FAO

TIME	PROGRAMME	SPEAKER
13:00 – 13:05	Welcoming remarks	Ms Akiko Nagano, Deputy Director for Climate Change Negotiations, Environment Policy Office, Ministry of Agriculture, Forestry and Fisheries (MAFF), Japan
13:05 – 13:45	Sharing experiences	
	COMET Farm Voluntary Carbon Reporting Tool	Dr Adam Chambers, Natural Resources Conservation Service, USDA and Ms Amy Swan, Natural Resource Ecology Laboratory, Colorado State University
	Unlocking the potential of soil organic carbon: RECSOIL	Mr Ronald Vargas, Secretary of the Global Soil Partnership, Land and Water Officer, FAO
13:45 – 14:05	Panel discussion	
	<ul style="list-style-type: none">• Prof. Rattan Lal, Distinguished University professor of Soil Science and Director of the Carbon Management and Sequestration Center, The Ohio State University, Ohio• Ms Masae Sumikoshi, Senior Researcher, Overseas Environmental Cooperation Center, Japan	
14:05 – 14:25	Q&A	
14:25 – 14:30	Closing remarks	Mr Martial Bernoux, Senior Natural Resources Officer, FAO

MEETING RECORDING:  zoom