



Food and Agriculture  
Organization of the  
United Nations

# 18<sup>th</sup> Working Session of the Intergovernmental Technical Panel on Soils (ITPS)

21-23 March 2023  
Fao Headquarters  
Rome, Italy

## RECSOIL: Pilot Projects

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INTERGOVERNMENTAL  
TECHNICAL PANEL ON SOILS



## GOALS

Stop further losses of SOC, maintain and increase SOC stocks

Boost soil health

Improve farmers livelihoods and recognize farmers' contributions to a better environment

Enhance food security (increase productivity) and food nutritional value

Build-up systems resilience and adaptation while supporting the provision of ecosystems services: support productivity, nutrient cycling, water quality & availability and preserve biodiversity

**RECARBONIZATION  
OF GLOBAL SOILS**

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# REC SOIL 'toolkit'

Technical feasibility

Technical Training and Capacity Building

MRV Protocols

Country-driven global data products

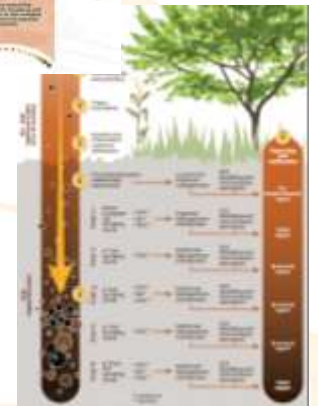
Global Soil Organic Carbon map  
GSOCmap



Global Soil Organic Carbon Sequestration Potential Map  
GSOCseq



Indicator	Parameter/metric	Soil physical properties	Bulk density (kg dm <sup>-3</sup> )
Soil productivity	Agricultural productivity or biomass in dry matter (t ha <sup>-1</sup> year <sup>-1</sup> )	Soil biological activity	In some cases, bulk density can be complemented by available water capacity, or other relevant soil physical properties (see below/evaluation)
Soil organic carbon	Organic carbon (%)		Soil respiration rate (gCO <sub>2</sub> m <sup>-2</sup> h <sup>-1</sup> )
			Usually combined with at least one other biological indicator (see below/evaluation)



# RECISOIL

## STAKEHOLDERS AND RESPONSIBILITIES

- Project Supervision
- Project co-creation
- Technical support
- Following up the scaling up of RECISOIL

### GSP SECRETARIAT



### FAO NATIONAL OFFICE



- Project Supervision II
- Project co-creation
- Identification of stakeholders
- Lateral agreements documentation

- Project Manager
- Project co-creation
- Identification of stakeholders
- Sustainability
- Co-financing
- Project reporting supervision

### GOVERNMENTAL REPRESENTATIVE

- Project members
- Project co-creation
- Farmer's engagement
- Support to decision-making
- Material purchase
- Supervision of field operations

### FARMER'S ASSOCIATION

### COMMUNITY LEADERS

### NATIONAL TECHNICAL SUPPORT

- Project Coordinator
- Decision-making
- Financial administration
- Project co-creation
- Soil sampling campaigns
- Data curator (data collection & QC)
- Data analysis and Reporting
- Technical and extension services
- Coordination of capacity building and KE

### SOIL LABORATORY/IES

- Project partner
- Soil lab analysis
- Lab quality assurance
- Lab results upload to the RECISOIL database
- Support data result interpretation

### 'SOIL DOCTORS' & FARMERS



# Pilot Projects: Phase III

## Implementation steps of the **RECISOIL** GREEN PATH

### Technical training and capacity building

- Farmers (Global Soil Doctor Programme)
- Soil laboratories (through GLOSOLAN)
- National technical support (through GSP Secretariat)

#### PHASE III

### Definition of project area and priorities to implement RECISOIL

- Selection of project area and land uses
- Definition of objectives: evaluation of SOC sequestration, addressing of other soil threats
- Identification of national stakeholders and distribution of responsibilities
- Gathering of spatial, management and socioeconomic data of the project area - Metadata
- Stratification of the project area
- Definition of the sampling design and density

#### PHASE II

#### PHASE I

### Identification of priority countries to implement RECISOIL

Based on the GSOCseq map and country readiness

#### PHASE IV

### Baseline assessment and identification of soil management interventions

- Baseline assessment through three datasets
- Identification of soil management interventions

#### PHASE V

### Implementation of SSM, monitoring, measuring, and reporting

- Implementation of sustainable soil management practices
- Annual monitoring
- Mid-term reporting

#### PHASE VI

### Soil organic carbon sequestration and soil health final verification

- Final assessment of soil health status (4 years after the implementation of SSM practices):
- Final estimation of SOC changes
- Final project report



# RECISOIL – Green Path

## Piloting countries

Show Workbench >



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GloSIS Global (Beta)

Data Hub for GloSIS Country Driven Global Datasets

About

Related Maps

### RECISOIL-MEXICO

Agricultural activities: livestock; annual crop and perennial crop  
Total area: 250-340 ha  
30-45 farmers

**RECISOIL-COSTA RICA**  
Agricultural activities: livestock and coffee plantation  
Total area: 500 ha  
40 farmers

### RECISOIL-ECUADOR

Agricultural activities: Agroforestry (Organic Cacao Production)  
Total area: approx. 2869 ha  
>1000 farmers

### RECISOIL-TOGO

Agricultural activities: Agroforestry (cashew); Soya and maize,  
Problems: slash and burn, low fertility  
Total area: approx. 250 ha  
+80 farmers

### RECISOIL-GHANA

(Undergoing project specific area selection and description of activities)

### RECISOIL-KENYA

Agricultural activities: mixed farming (maize, horticulture and livestock)  
Total area: 140 ha  
70 farmers

Map Settings

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Story



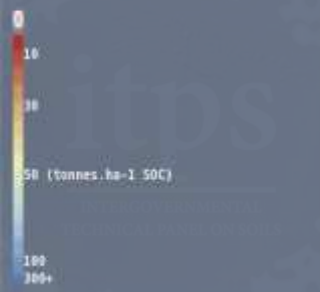
GISOCeeg Final SOC Stocks SSM3

IDEAL ZOOM

ABOUT DATA



Opacity: 80%



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# EX-ACT, SEPAL and RECISOIL



RECISOIL elaborates Soil Organic Carbon stock changes estimations through locally sourced data.

The estimates can be included in the tier 2 section of EX-ACT to refine GHD estimations.



SEPAL provides high granularity data on land cover through spatial analysis.

The information can be used to refine land use categories in EX\_ACT during a GHG assessment

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# EX-ACT, SEPAL and RECISOIL



Data to stratify analysis



Data on non spatialized activities



Data on land cover

Data on non spatial activities



Overall GHG estimation

Refinement on C change in soils



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# RECISOIL and FFF



About Related Maps

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**RECISOIL-ECUADOR**  
Global hotspot  
Agricultural activities: Agroforestry (Organic Cacao Production)  
Problems: Cd contamination  
Total area: approx. 2 869 ha  
>1 000 farmers

**RECISOIL - TOGO**  
Agricultural activities: Agroforestry (cashew); Soya and maize,  
Problems: slash and burn, low fertility  
Total area: approx. 250 ha  
+80 farmers

**RECISOIL-GHANA**  
(Undergoing project specific area selection and description of activities))

**RECISOIL-KENYA**  
Global hotspot  
Agricultural activities: mixed farming (maize, horticulture and livestock)  
Problems: TBC  
Total area: 140 ha  
70 farmers





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# RECISOIL and FFF

## RECISOIL-Togo:

- In-person training on data collection and management and Soil Doctors on 20-25 February 2023
- 25 technicians
- Training and procurement for soil laboratory ongoing
- Soil kits sent from FAO HQ

## RECISOIL-Ecuador:

- First training on stratification and use of GIS tools on 27 February-3 March 2023
- 20 technicians including FFPO, National Agricultural Research Institute and local universities
- Soil kits will be sent from FAO HQ

## RECISOIL-Kenya:

- Collaboration of EX-ACT, SEPAL and RECISOIL tools
- Area of piloting identified and FFPO to implement

## RECISOIL-Ghana:

- Establishment of collaborations, and underway is selection of project area(s)



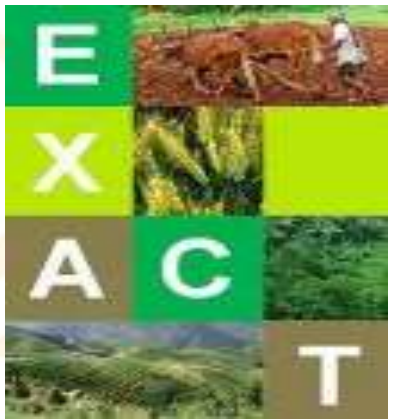
# Data harmonization and processing

Most data can be processed in one **spreadsheet** or multiple spreadsheets (eg Microsoft Excel, OpenOffice, LibreOffice, Google Sheets, others).

**Collaboration underway with:**

- **EX-ACT & RECSOIL Tools for collective data gathering, and**

**CSI is developing offline collection platform**





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Thank you!

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