



Food and Agriculture  
Organization of the  
United Nations

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

## Global Soil Laboratory Network (GLOSOLAN)

November 18-19-20, 2024

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Filippo Benedetti, GSP Secretariat*

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INTERGOVERNMENTAL  
TECHNICAL PANEL ON SOILS



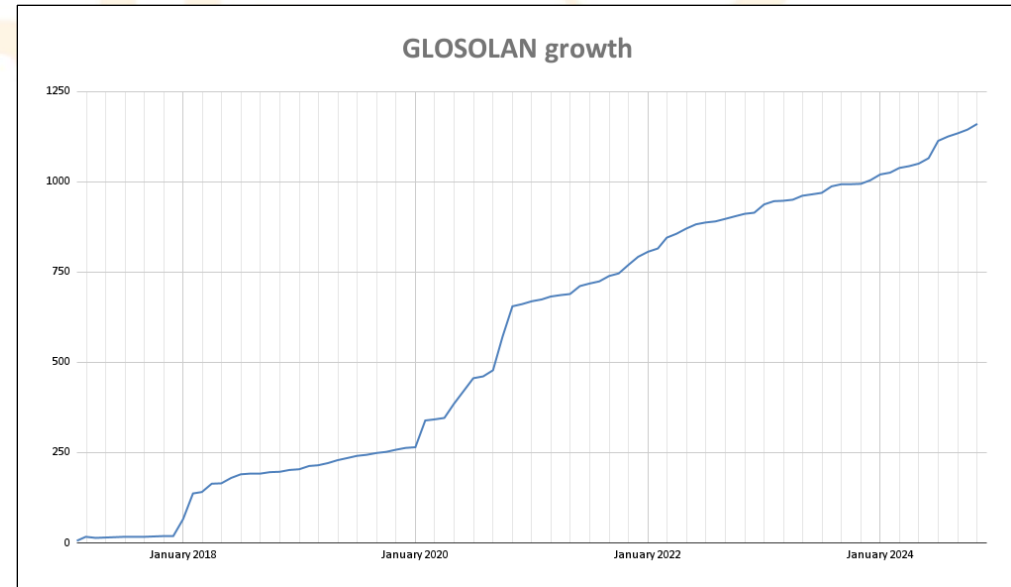
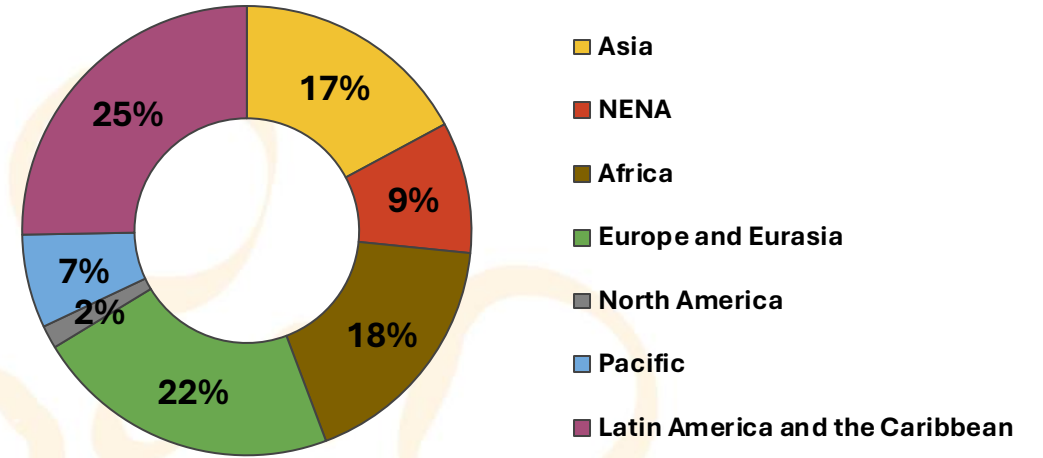
# Current status of GLOSOLAN

About 1 200 registered members  
from 167 countries

→ Over 6 000 people



## Regional participation in GLOSOLAN



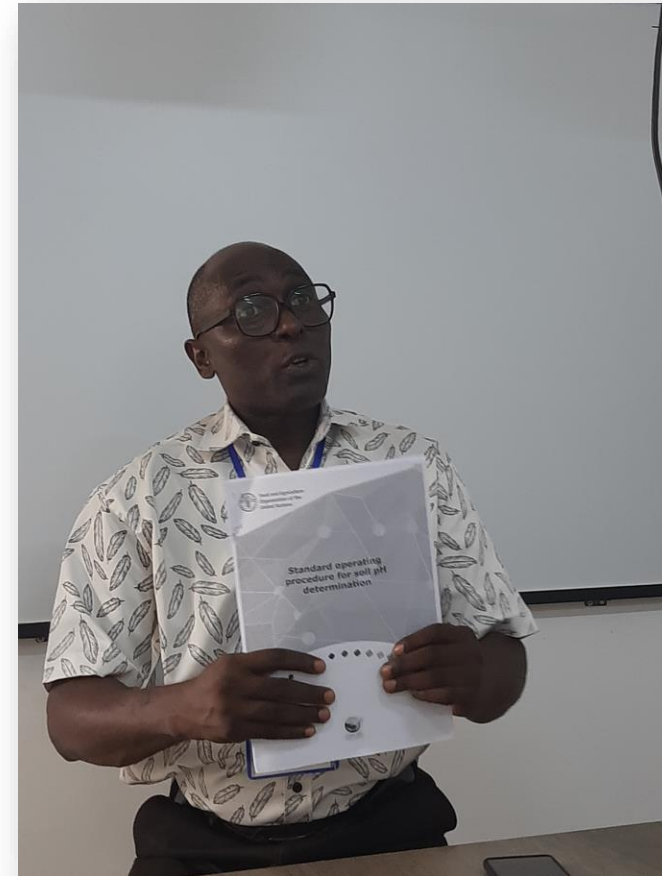
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Soil data comparability is possible only if the same procedures are adopted or via transfer functions

Using the same SOPs

=

Speaking the same language



Different methods and procedures used by different laboratories can lead to inconsistent and unreliable results, which can make it difficult to compare and interpret data

# Some updates on GLOSOLAN : GLOSOLAN SOP

## Already published:

- 1 on sample pre-treatment
- 21 on soil chemical parameters (1 more ongoing)
- 2 on soil physical parameters (2 more ongoing)
- 4 on soil biological parameters
  
- New **SOPs** under publication:
  - Enzymes activity
  - Mesofauna by QBS-ar
  - Particulate organic carbon
- Identified the labs that work on **microplastic**
- Current focus on the **SOPs: review, finalization, translation**



## LE PRÉTRAITEMENT DES ÉCHANTILLONS

- À la réception, examinez l'état de l'échantillon, écraser les morceaux de terre et débarrasser des cailloux et des fragments de plante ou végétation pouvant s'y trouver.
- SÉCHAGE :
- Les échantillons de sol sont séchés à l'air dans une salle ou dans une étuve de séchage ventilée dépourvue de tout air humide (40°C) jusqu'à ce que la perte de masse ne soit pas supérieure à 5% (fraction massique) par 24h. Une fois le séchage terminé, déterminer et relever la masse totale de l'échantillon séché.
- Eviter toute contamination
- Désagréger l'échantillon séché et le tamiser à travers un tamis de 2 mm.
- Reconditionner dans un contenant de stockage et soumettre au laboratoire pour tests.
- Préparer l'échantillon de sol conformément au mode opératoire de Manipulation et préparation des échantillons de sol pour les analyses chimiques et physiques



<https://www.fao.org/3/ca8283en/ca8283en.pdf>

GLOSOLAN  
training sessions

มาตรฐานการปฏิบัติงาน  
การวิเคราะห์ค่าความเป็นกรด ด่าง (pH)  
ของดิน

มาตรฐานการปฏิบัติงาน  
การวิเคราะห์ปริมาณอินทรีย์คาร์บอนในดิน  
วิธี Walkley-Black  
โดยวิธีการไทเทรตและการเทียบสี

มาตรฐานการปฏิบัติงาน  
การวิเคราะห์ปริมาณฟอสฟอรัส  
ที่เป็นประโยชน์ในดิน  
วิธี Bray I และ Bray II

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# Some updates on GLOSOLAN : capacity building

- **Online training sessions** implemented on various topics and at various scales
- **Face to face training**

Regional **in-person** workshops implemented in Latin America and the Caribbean – **LATSOLAN** (Chile, April 2024) and in Asia – **SEALNET** (Philippines, July 2024)



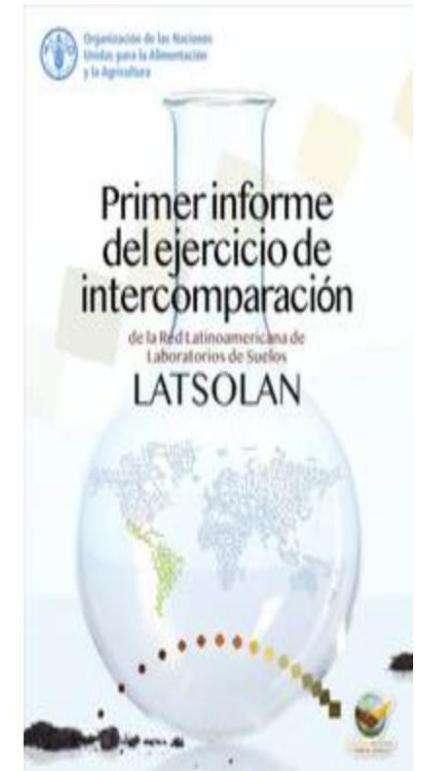
# Some updates on GLOSOLAN : Monitoring Soil Laboratory performance

- **Inter-laboratory comparisons (PTs)**
  - Eurasia: results presented in an online webinar on 29 October
  - Africa and NENA: individual reports to be distributed soon to the labs
  - Asia: ongoing
  - GLOSOLAN global PT 2025: to be launched in January  
*Targeting C, N, P, pH, EC, texture, heavy metals*

## Key publications



SEALNET PT Report  
EN



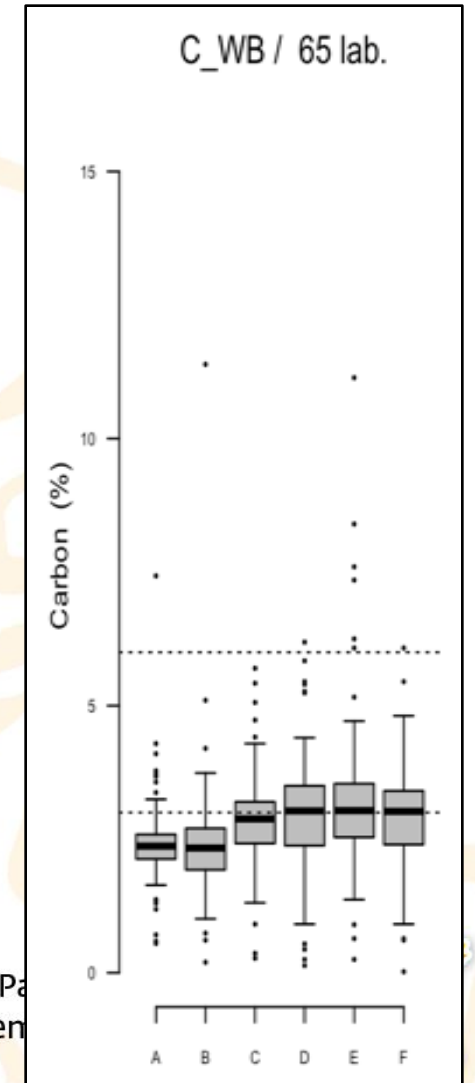
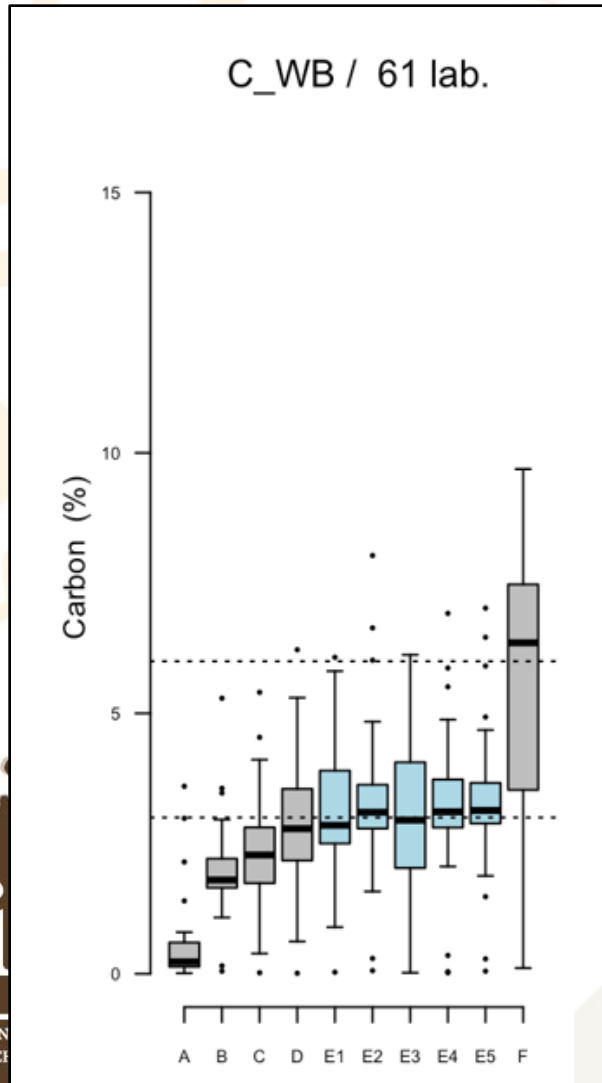
LATSOLAN PT Report  
ES

# Thriving a positive change

2022

GLOSOLAN REGIONAL TRAINING IN DAKAR (Oct. 2023)

2024



# 8<sup>th</sup> GLOSOLAN meeting held last week (11-14 November)

8<sup>th</sup> GLOSOLAN meeting held last week (11-14 November) in *hybrid modality*: Steering Committee and Regional Chairs present at FAO HQ and other members connected remotely



# Proposal on a certification system for soil laboratories

*Stop soil waste data to flow in the system*



- Focus on **soil organic carbon** only (for the moment)
- Proposal presented at the 12<sup>th</sup> GSP Plenary Assembly (Positive feedbacks received from countries)
- **Why?**
  - 40-50% of labs which participated to the GLOSOLAN PTs have major issues in accuracy and precision
  - Irrelevant monitoring and management decisions
- **How?**
  - Organize several rounds PTs annually (still need to discuss more)
  - After obtaining the several rounds ‘satisfactory results in a row, the lab get the certificate, to be issued by FAO
- **Many issues pending:**
  - Legal aspects (to be discussed with FAO Legal Office)
  - Resources (related to the shipment of samples and HR)
  - Logistics (sample preparation, sterilization, statistics, etc.)
- **Timeline:**
  1. Ongoing: development of the proposal by a GLOSOLAN working group **(please feel free to contribute)**
  2. March: Proposal reviewed by GLOSOLAN members
  3. June: Presentation of the proposal at the GSP Plenary Assembly

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# Thank you

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