

# THE SUCCESS STORY OF AFRILAB in person training on 'raising confidence in quality measurements from soil laboratories in Sub-Saharan Africa'

Dakar, 23-27 October 2023

*Mr. Takesure Tendayi  
AFRILAB vice-Chair*

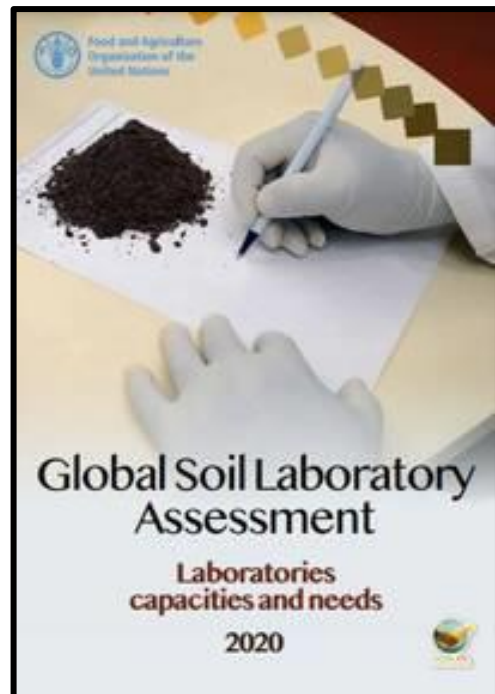
- Support from the SoilFER project
- Call launched among AFRILAB: **over 200 candidates responded**
- Thanks to the support of the AFRILAB Steering Committee and the trainers
- Thanks to the support of FAO staff in Dakar (FAO-SN and FAO-SFW)
- Thanks to the support of IRD and ISRA

7<sup>th</sup> Meeting of the **Global Soil Laboratory Network (GLOSOLAN)** | 21-23 November 2023



# The need for an in-person training at the regional scale

- Results of the GLOSOLAN PT
- In-person workshop in Djibouti  
→ the idea came out



- Strong request from AFRILAB members
- Deeper discussion within GLOSOLAN

the **Global Soil Laboratory Network (GLOSOLAN)** | 21-23 November 2023



TRAINING NEEDS PERCEIVED in COMPARISON of an Independent Survey 'CHALLENGES FOR DEVELOPING LABORATORY CAPACITY in AFRICA' by:-

Samoe D<sup>1</sup>., Kalunga B<sup>2</sup>., Tendayi T<sup>3</sup>., Kaumba W.<sup>4</sup>, Gwandu T<sup>5</sup>., Mbewe E<sup>6</sup>., Singano L<sup>7</sup>., Wilson L<sup>8</sup>., Gowing C<sup>9</sup>., and Watts M.J<sup>10</sup> Consortium of Laboratory Scientists from University of Nottingham, British Geological Survey partnering Laboratories from Kenya, Malawi, Zambia and Zimbabwe

### **Among Challenges/Areas needing attention Listed in above survey were**

- Development and buy in of Action plans from management
- Building Trust and Confidence in Data output ; DOCUMENTATION OF PROCEDURES
- Strengthening of Gap analysis – Technical skills capacity , Understanding Local Context
- Audits, InterLaboratory Comparisons/Proficiency schemes ; HEALTH & SAFETY PRIORITIZATION
- Confidence Evidence and validation of performance by peers or external body
- Good Laboratory practices and Higher levels of confidence in the output
- Need for Networks and collaboration ; CALIBRATION & MAINTENANCE OF EQUIPMENT



# Participants and Trainers

- Training /Demonstrations given by local institutions (IRD, ISRA)
- Some of the members of the AFRILAB and GLOSOLAN Steering Committees



*Benin, Botswana, Cameroon, Cape Verde, Chad, Côte d'Ivoire, Democratic Republic of Congo, Djibouti, Eritrea, Eswatini, Ethiopia, Gabon, Ghana, Kenya, Lesotho, Liberia, Madagascar, Malawi, MALI, Mozambique, Namibia, Niger, Nigeria, Rwanda, Republic of Guinea, Sao Tome and Principe, Senegal, Sierra Leone, Somalia, South Sudan, Tanzania, The Gambia, Togo, Uganda, Zambia, Zimbabwe*

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## Topics covered directly/indirectly

‘the importance of raising confidence in lab data’

*Don't Forget to Remember the adage Presented*

‘Everybody can measure, but  
not everybody can do professional quality measures ’



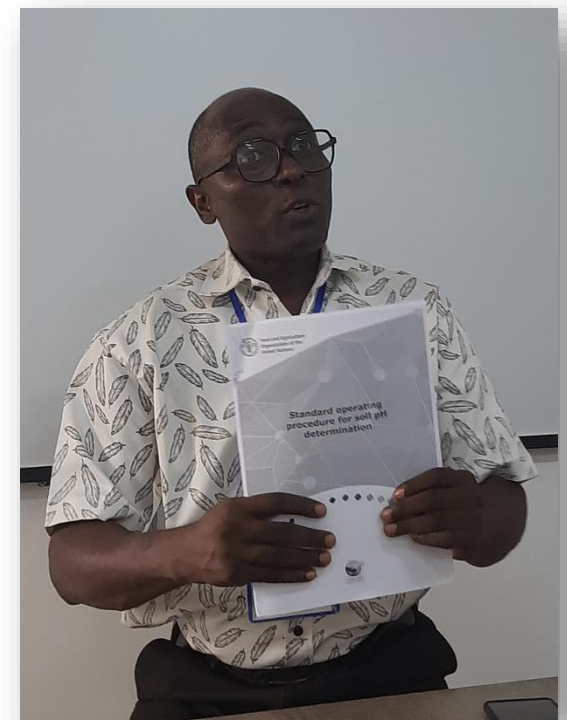
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# TOPICS COVERED INCLUDED

- Equipment calibration - underestimated until problem encountered
  - **Highlight.. simple bolt used as calibration weight**
- Preparation of internal reference material for internal QC/QA
- External quality control (how to participate in PTs)
- Health and safety in the laboratory
- Soil pH
- Soil EC
- Soil organic carbon - Walkley-Black method (titrimetric)
- Soil organic carbon - Walkley-Black method (colorimetric)
- Soil total Carbon and Nitrogen by Dumas
- Soil bulk density



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# Topics covered from various angles

Quality control in laboratories e.g. **NATIONAL PT's**  
Encouraged .... to be implemented ASAP regionally

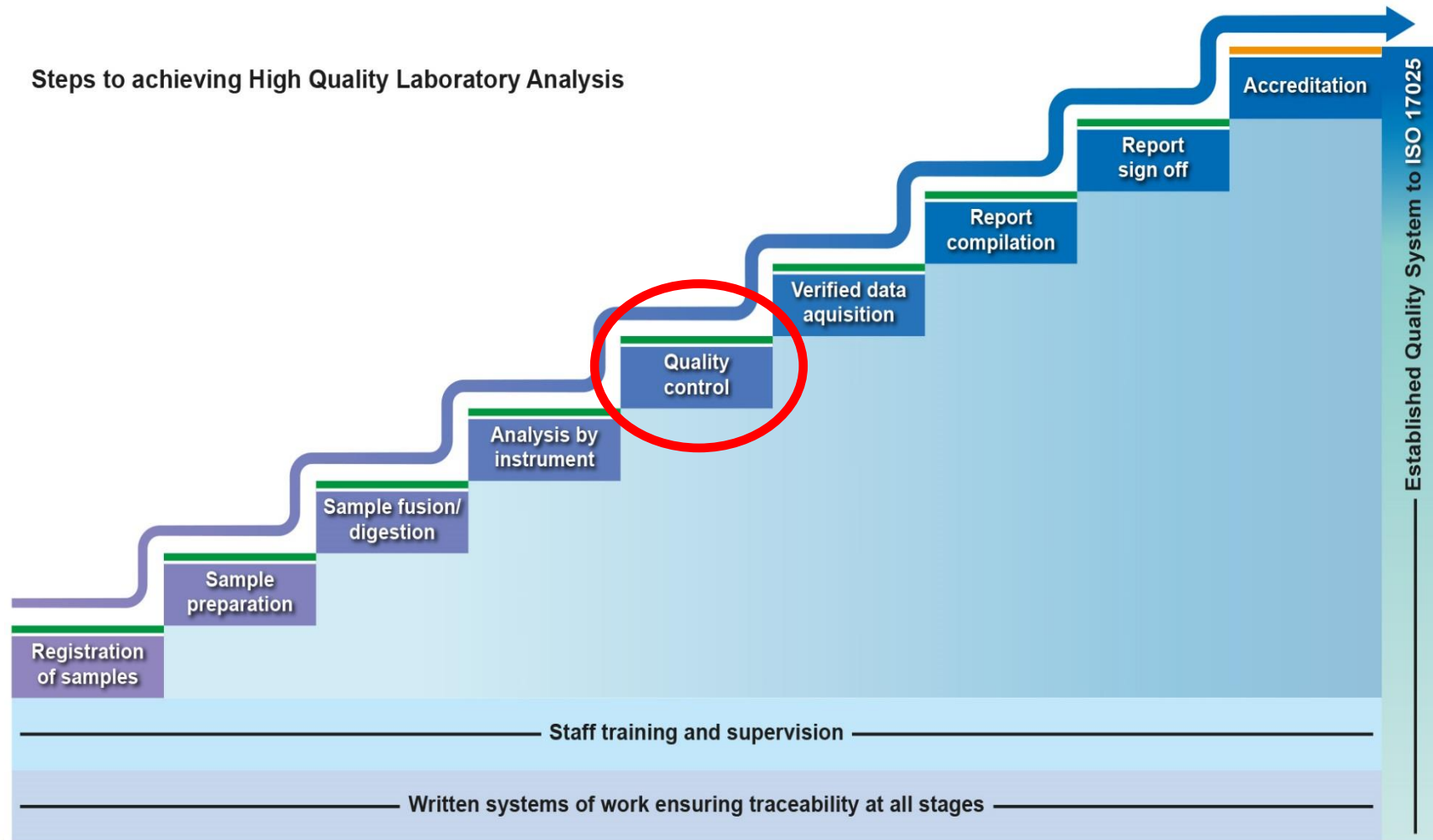
## IT IS AFFORDABLE

- Reference Materials being locally prepared
- Some equipment soil mixer can be made locally
- less cumbersome e.g. no phytosanitary...certification needed, No Clearance
- No sample quantities limitations as expenses

**Hence participants were challenged to Establish these**



# Technical requirements on 'raising confidence'



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MANY THANKS TO THE SUPPORT OF TECHNICAL STAFF OF IRD AND ISRA  
AND AFRILAB STEERING COMMITTEE MEMBERS AND GLOSOLAN



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# HEALTH AND SAFETY ISSUES HIGHLIGHTED







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About 80 participants from 40 Sub-Saharan countries





