



Salaam Development Center (SDC)

Project: Multilateral Fund Project

Report: Report training on Soil Lab Testing

Date: 13-22 Oct 2024



Multilateral Fund Project
Activity: Training on soil lap testing

Target Sites: Lacdhere, Rabable, Cuun, Ballay/Jibagale

Region: Nugal Puntland State of Somalia

13th -22th October 2024



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Introduction

Farmers are the backbone of agriculture, and their ability to understand and manage soil health is crucial for sustainable and productive farming. This training on soil lab testing is designed to equip farmers with practical skills and knowledge to effectively assess and improve their soil conditions.

Soil testing is a critical tool that helps farmers understand the physical, chemical, and biological properties of their soil. It enables them to make informed decisions regarding crop management, fertilization, and resource utilization. Through this training, farmers will gain expertise in:

Collecting and preparing soil samples correctly. Conducting basic lab tests to assess soil fertility, pH levels, and nutrient content. Interpreting test results to make precise agricultural decisions.

Adopting soil testing practices ensures optimal fertilizer use, reduces input costs, improves crop yields, and maintains the long-term health of agricultural land.

This initiative is particularly impactful in areas where soil conditions vary significantly and where sustainable farming practices are essential to achieving food security and resilience.

The knowledge imparted through this training will empower farmers to manage their soil resources efficiently, contributing to improved agricultural productivity and sustainability.

Additionally, the training introduces farmers to modern laboratory equipment and techniques, enhancing their capacity to adopt innovative approaches to soil management.

This scientific approach to agriculture promotes sustainable development and ensures better livelihoods for farming communities.

The soil lab testing training was conducted in Garowe District, targeting farmers from Laacdhare, Rabable, Cuun, and Balley/Jibagale. These sessions, organized under the Multilateral Fund project activities, aimed to enhance farmers' skills in soil management practices.

The 10-day training program was held at the Salaam Development Center (SDC) Hall and its Soil Lab Testing facility. Participants received hands-on experience with sampling techniques, laboratory procedures, and interpreting soil test reports.

Jointly conducted by officials from the Salaam Development Center (SDC), the training adhered to standard guidelines, ensuring a comprehensive learning experience. This initiative represents a significant step toward building the capacity of farmers and fostering sustainable agricultural practices in the region.

Expectations of the Participants

- ❖ Gain practical skills in soil sampling, testing, and analysis.
- ❖ Understand soil health and its impact on crop productivity.
- ❖ Make informed decisions using soil test results.
- ❖ Implement sustainable soil management practices.
- ❖ Enhance agricultural productivity through improved soil practices.

These key outcomes will help farmers increase yields and promote long-term soil health.

Training Objectives

- ❖ Enhance the capacity and skills of farmers in Good Agricultural Practices.
- ❖ Equip farmers with practical skills in soil sampling, testing, and analysis.
- ❖ Improve understanding of soil properties and their effect on crop growth.
- ❖ Enable farmers to interpret soil test results for informed decision-making.
- ❖ Promote sustainable soil management practices for long-term soil health.
- ❖ Increase crop productivity and resource efficiency through better soil management.

Training Contents

- ❖ • Introduction to Soil Testing
- ❖ Why soil testing matters: improved yields, sustainable practices.
- ❖ • Soil Sampling Techniques
- ❖ Proper sampling tools and methods for accurate results.
- ❖ • Soil Lab Testing Procedures
- ❖ Key tests: pH, salinity, organic matter, nutrients (NPK).
- ❖ • Interpreting Soil Test Results
- ❖ Understand reports and link results to crop needs.
- ❖ • Fertilizer Recommendations
- ❖ Choosing the right fertilizer based on test outcomes.
- ❖ • Sustainable Soil Management
- ❖ Techniques to enhance fertility and prevent degradation.
- ❖ • Practical Exercise
- ❖ Hands-on soil sampling, testing demo, and report analysis.

Training Methodology

- **Presentations**
engaging sessions led by experts to introduce key concepts in soil testing, providing foundational knowledge and theoretical insights.
- **Hands-On Demonstrations**
Practical demonstrations of soil sampling and testing techniques using laboratory equipment, allowing participants to observe and understand procedures.
- **Field Exercises**
On-site activities where participants practice soil sampling and testing in real agricultural settings, reinforcing theoretical knowledge through practical application.
- **Group Discussions**
Interactive sessions that encourage participants to share experiences and insights related to soil management, fostering collaboration and peer learning.
- **Case Studies**
Analysis of real-life scenarios to illustrate the impact of soil testing and effective management practices, helping participants understand practical applications.
- **Q&A Sessions**
Opportunities for participants to ask questions and seek clarification on specific topics, ensuring a deeper understanding of the material covered.
- **Feedback and Evaluation**
Collecting participant feedback to assess the training's effectiveness and identify areas for improvement, ensuring the program meets the needs of the farmers.

Expected Outcome of the Training

1. **Enhanced Knowledge of Soil Health**
Participants will develop a comprehensive understanding of soil properties, including physical, chemical, and biological aspects. This knowledge will enable farmers to recognize the critical role of soil health in crop productivity and overall farm sustainability. By understanding how factors like pH, nutrient levels, and organic matter content influence plant growth, farmers will be better equipped to make informed choices that promote long-term soil fertility.
2. **Practical Skills in Soil Testing and Management**
The training will equip participants with hands-on skills in soil sampling, testing procedures, and data interpretation. Farmers will learn how to collect representative soil samples and conduct essential tests to evaluate soil health. This practical experience will empower them to implement soil testing in their own farming practices, allowing for precise recommendations on fertilizer application and amendments.
3. **Tailored to their specific soil conditions.** As a result, participants will be able to enhance their soil management techniques effectively.

4. Increased Agricultural Productivity and Sustainability

by applying the knowledge and skills gained during the training, participants are expected to see improved crop yields and overall farm productivity. The focus on sustainable soil management practices will help farmers reduce reliance on chemical fertilizers and promote organic amendments, leading to healthier soils and more resilient farming systems. This shift toward sustainability not only benefits individual farmers but also contributes to the broader goal of food security and environmental conservation within their communities

The training on soil lab testing officially commenced on October 13, 2024, October 22, 2024. A

Opening of the Training

total of 10 participants, comprising farmers from Laacdhare, Rabable, Cuun, Baley, and Jibagale in Garowe District, have enrolled in this program.

During the opening session, participants were welcomed by officials from the Salaam Development Center (SDC), who emphasized the importance of soil health in sustainable agriculture. The training aims to equip farmers with essential knowledge and practical skills in soil testing and management, ensuring they can make informed decisions that will enhance their agricultural practices.

As the training progresses, participants will engage in a mix of theoretical lectures, hands-on demonstrations, and Soil Lab MOAI, fostering a comprehensive learning experience that prepares them for effective soil management in their farming activities.

Achievements

- ❖ **Skill Development**
Participants gained practical skills in soil sampling and testing, demonstrating proficiency in laboratory techniques.
- ❖ **Enhanced Knowledge**
Farmers developed a strong understanding of soil properties and learned to interpret soil test results for informed decision-making.
- ❖ **Community Engagement**
the training fostered collaboration among participants, encouraging the sharing of experiences and knowledge related to soil management.
- ❖ **Adoption of Sustainable Practices**
Participants committed to implementing sustainable soil management techniques, such as organic amendments and cover cropping.
- ❖ **Increased Confidence**
Hands-on training boosted participants' confidence in conducting soil tests and effectively managing their soil resource.

Challenges

- ❖ **Soil Degradation**
Erosion, compaction, and nutrient depletion from intensive farming practices reduce soil quality and crop yields.
- ❖ **Poor Soil Fertility**
Lack of organic matter and essential nutrients leads to low fertility, forcing farmers to rely on chemical fertilizers.
- ❖ **Water Management Issues**
inadequate irrigation and drainage practices result in waterlogging or drought, negatively affecting soil health.
- ❖ **Pest and Disease Pressure**
Increased pest and disease threats due to monoculture and poor soil management complicate crop production.
- ❖ **Limited Knowledge and Resources**
A lack of training and access to sustainable practices prevents effective soil management and improvement.
- ❖ **Soil Salinity**
High salt concentrations in irrigated areas inhibit plant growth and reduce long-term soil fertility.

Recommendations

- ❖ **Develop Comprehensive Training Programs**
- ❖ Implementing regular training programs for both farmers and soil laboratory technicians is crucial to building capacity in soil testing and interpretation. These programs should cover not only the technical aspects of soil sampling and analysis but also the significance of soil health and its impact on agricultural productivity. By enhancing the skills of personnel involved in soil testing, farmers will receive more accurate analyses and better guidance on how to apply the results effectively. Additionally, training sessions could incorporate hands-on practice; ensuring participants can confidently carry out soil tests and understand the implications of their findings.
- ❖ **Strengthen Extension Services and Follow-Up Support**
- ❖ Establishing robust agricultural extension services that provide ongoing support and follow-up after soil testing is vital for ensuring that farmers can effectively implement recommendations based on test results. Extension agents should be trained to offer tailored advice on soil management practices, helping farmers interpret their test results in the context of their specific agricultural conditions. This support could include on-site visits, workshops, and the development of informational materials that address common challenges related to soil health. Strengthening these services will empower farmers to take actionable steps toward improving their soil management and ultimately enhance their agricultural productivity.

Annex:





