



UNIVERSITY OF ZAMBIA
SCHOOL OF AGRICULTURAL SCIENCES

Climate Smart Agriculture Youth Network Global (GCSAYN)

PROGRESS REPORT

Soil Science Club and Soil Literacy Engagement

Reporting institution	The University of Zambia (UNZA)
Visiting institution	Chisamba Academy of Excellence
Date of activity	15 th September ,2026
Activity	Official launch of soil literacy engagement under GCSAYN
Participants	41 Grade 10 pupils, 2 former GCSAYN interns, 7 staff and 3 teachers= 53
Lead facilitator	Ms. Olipa N. Lungu, GCSAYN SADC Hub Lead & GRSC Co-Chair

1. Executive Summary

On 15th September 2026, the School of Agricultural Sciences at the University of Zambia (UNZA) hosted 39 Grade 10 pupils and 4 accompanying teachers from Chisamba Academy. The visit marked the official launch of soil literacy engagement under the Climate Smart Agriculture Youth Network Global (GCSAYN) UNZA Centre of Excellence (CoE) and provided participants with structured, practical exposure to soil science, sustainable agricultural practices, as well as the research and production facilities of the School.

The programme combined brief interactive lecture-based instruction, laboratory observations, greenhouse demonstration, field practicals, and a tour of the integrated animal production systems. All sessions were delivered by academic staff, technical staff, and former GCSAYN interns. The engagement achieved its stated objectives of raising soil literacy awareness, developing practical observation skills, and promoting environmental responsibility among secondary school learners.

2. Objectives

- To formally launch the GCSAYN soil literacy programme within participating secondary schools.
- To introduce learners to soil as a living, finite resource central to food security and ecosystem sustainability.

- To provide direct exposure to Soil Chemistry and Soil Physics through laboratory and field practicals.
- To demonstrate low-cost, climate-smart and sustainable production practices.
- To illustrate the integration of soil, crop, water and animal systems within modern agriculture.
- To strengthen leadership pathways by placing former GCSAYN interns in facilitation roles.

3. Programme of Activities

3.1 Arrival and Group Photograph

Pupils and teachers were received at the entrance of the School of Agricultural Sciences by Mr. Hampande, the School Assistant Registrar and Dr. Mirriam Phiri, the Head of Land Management Department, Ms. Olipa (GCSAYN UNZA CoE and SADC Hub Lead), and two former GCSAYN interns (Mr. Andrew Sakala and Mr. Luckson Mwelwa). Group photographs (*Figures 1 and 2*) were taken to mark the commencement of the engagement.



Figure 1: Group photograph of pupils, teachers and host team at the entrance of the School of Agricultural Sciences, University of Zambia.



Figure 2: Reception of the visiting team from Chisamba Academy at the School entrance.

3.2 Official Opening and Launch of the Soil Literacy Session

The group proceeded to Omnia 2 Lecture Theatre, where Ms. Olipa Lungu delivered the official opening remarks. She welcomed the 39 pupils and 4 teachers, introduced the mandate and structure of the GCSAYN Network, the Soil Science Club Program and formally launched the soil literacy session (Figure 3). Emphasis was placed on the critical role of soil in agriculture, food security, and ecosystem sustainability.



Figure 3: Ms. Lungu, GCSAYN SADC Hub and UNZA CoE Lead, delivering the official opening remarks and launching the soil literacy session.



Figure 4: Pupils from Chisamba Academy of Excellence following the soil literacy session.

3.3 Technical Presentation on Crop Improvement

TO appreciate the importance of food system transformation and need for increased climate resilience, Dr Munyinda delivered a technical presentation on bean breeding, the importance of improving food crop varieties, and the application of tissue culture in agricultural research (*Figure 5*). The session introduced learners to crop improvement as a deliberate, evidence-based process undertaken in response to production constraints in a changing climate.



Figure 5: Technical presentation on bean breeding, crop improvement and tissue culture in Omnia 2 Lecture Theatre.

3.4 Soil Chemistry Laboratory Tour

Pupils visited the Soil Chemistry Laboratory, where Mr. Chisenga (Laboratory Technician) explained the laboratory equipment (*Figure 6*), the parameters routinely determined, and the direct influence of those parameters on crop production and soil health. The session demonstrated the link between laboratory analysis and practical field recommendations.



Figure 6: Mr. Chisenga explaining laboratory equipment and soil analysis parameters in the Soil Chemistry Laboratory.

3.5 Greenhouse Demonstration on Sustainable Farming

At the greenhouse, Mr. Luckson Mwelwa (former GCSAYN intern and active Network member) demonstrated sustainable farming using pots and plastics (*Figure 7*), the recycling of organic litter, and the preparation and use of compost fertilizers. The importance of controlled environments for efficient production was highlighted.



Figure 7: Greenhouse demonstration on container-based sustainable farming and the use of compost fertilizers.



Figure 8: Pupils at the nursery and greenhouse area during the sustainable farming demonstration.

3.6 Practical Session: Soil Physics and Weather Station

The group was divided into two and guided by Luckson Mwelwa and Andrew Sakala, both former GCSAYN interns. Pupils examined soil texture, structure and colour, and learned how these properties affect crop growth and flood management. They were subsequently introduced to the weather station and shown how its parameters support irrigation scheduling and soil-water management (*Figure 9*).



Figure 9: Practical field session on soil properties and weather-based irrigation scheduling.

3.7 Animal Science Department Tour

The programme concluded with a guided tour of the Animal Science facilities, including the milking parlour, pig unit, cattle spray race, and aquaculture section. The tour illustrated the integration of crop, soil, water and livestock systems within a single production environment (*Figure 10*).



Figure 10: Pupils observing the dairy unit during the guided tour of the Animal Science facilities.

3.8 Closing

A pupil representative expressed gratitude on behalf of the visiting team while the host team provided closing remarks, reiterating the value of soil literacy and youth participation in sustainable agriculture.

4. Reach and Achievements

Indicator	Result
Learners reached	39 Grade 10 pupils
Teachers reached	4
Sessions delivered	7 (1 plenary, 1 technical presentation, 5 practical or facility-based)
Facilities accessed	Soil Chemistry Laboratory, Greenhouse, Weather station, Field practical area, and Animal Science unit
Facilitators engaged	Academic staff, technical staff, and 2 former GCSAYN interns

Key achievements of the engagement were as follows:

- Practical demonstrations covered Soil Chemistry, Soil Physics, sustainable container farming, composting, weather-based irrigation, and integrated animal systems.
- The activity advanced GCSAYN aims of enhancing soil literacy, building practical observation skills, and promoting environmental responsibility among secondary school youth.

- Former GCSAYN interns played active facilitation roles, demonstrating continuity and leadership development within the Network.
- The engagement established a replicable programme model that can be extended to additional schools.

5. Challenges

Logistics has been the principal limitation in organising visits to different schools and hosting similar events. Constraints relating to transport, scheduling, and the coordination of large visiting groups continue to restrict the number of schools that can be reached within a given period.

6. Way Forward

- Launch Soil Science Clubs and soil-literacy programmes in additional schools.
- Secure continued institutional support for logistics and outreach to expand programme reach.
- Maintain the practice of engaging former GCSAYN interns as facilitators to sustain leadership development.
- Establish follow-up mechanisms with participating schools to monitor the uptake and continuity of club activities.

7. Acknowledgements

Special thanks to the UNZA Administration for their support, and to Ms. Olipa Lungu, SADC Hub Lead of the Climate Smart Agriculture Youth Network Global (GCSAYN), for her leadership and support in making this engagement possible. Appreciation is further extended to Dr Munyinda, Mr. Hampande, Mr. Chisenga, Luckson Mwelwa and Andrew Sakala for their technical contributions, and to the management and staff of Chisamba Academy of Excellence for allowing their pupils to participate in this engagement.

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