

Where Knowledge Is Planted, Change Sprouts:

Inside HER Lab's Regenerative Agriculture Course

Healthy Soil, Resilient Futures

Across the world, soil degradation, declining nutrient density, and climate variability are reshaping the future of agriculture. For rural communities, this shift creates both vulnerability and opportunity. Those who understand regenerative practices and soil biology will be better positioned to restore land, secure food systems, and participate in the emerging green economy.

At HER Lab, Global Give Back Circle's workforce-readiness and economic empowerment program for young women in rural Kenya, the **iCow Regenerative Agriculture and Soil Microscopy Course** introduced participants to these globally relevant skills. Over 28 lessons and an intensive microscopy week, students in West Pokot, Kenya engaged with scientific tools and field-based experimentation that placed sustainability at the center of their learning.

Training Outcomes at a Glance:

- **20 students** completed the course
- 9 graduated with distinction (**90%+**)
- 10 earned completion certificates
- Class average: **87.3%**
- 2 received international scholarships to the **Soil Food Web School**



These outcomes underscore both the relevance of the curriculum and the readiness of young women in rural Kenya to take on advanced, sustainability-focused training, even with intermittent electricity and limited digital infrastructure.

What They Learned



Regenerative vs. conventional farming. Through trial plots, students gathered firsthand evidence: higher nutrient density, faster cooking times, improved taste, and reduced reliance on chemical inputs. All students reported shifting from skepticism about fertilizer-free farming to confidence in regenerative approaches after running their own trials.

Compost as climate infrastructure. Students created Bio-Complete Compost using the thermophilic Soil Food Web method. Regenerative composting is increasingly recognized as a low-cost climate solution, improving soil carbon storage, restoring microbial diversity, and strengthening farm productivity without synthetic fertilizers.

Microscopy: seeing soil as an ecosystem. Most participants had never encountered a microscope. By the end, they were: identifying beneficial and harmful microorganisms, conducting 20-field-of-view analyses, and documenting microbial life through digital uploads.

Early Signs of Impact

01

Growing Scientific Confidence

Participants demonstrated accuracy in lab techniques and comfort with scientific tools. This confidence is essential for pathways in environmental science, sustainable agriculture, and green jobs.

02

Agricultural Mindsets

All students reported shifting from skepticism about fertilizer-free farming to confidence in regenerative approaches after running their own trials. This shift mirrors a broader global trend: farmers adopt climate-smart practices when they witness results directly.

03

Household Practices

Students began teaching composting and soil stewardship at home, and families expressed interest in adopting new practices. This peer-to-household diffusion is an important mechanism for scaling climate literacy without formal extension systems.

04

Resilience Under Constraints

Despite power outages, unstable internet, and equipment challenges, the cohort completed all modules—suggesting strong motivation and perceived value.



Why This Matters in the Context of Global Sustainability

Around the world, the transition to climate-resilient agriculture depends on a workforce that understands soil function, measures ecological change, and adapts practices to local contexts. This course shows that rural young women, often excluded from scientific and environmental fields, can quickly become credible contributors to sustainability efforts when given access to the right tools.

HER Lab's model places young women at the intersection of education, economic opportunity, and environmental stewardship. The early results from West Pokot suggest that building green skills locally can influence household practices, diversify career pathways, and strengthen community resilience in the face of climate and economic uncertainty.