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KUMASI, GHANA

GROUP NAME: SUSTAINABLE FUTURES

DAY15 GREENER

#PGC2025

GROUP MEMBERS

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DATE: 15TH OCTOBER, 2025

PROJECT GREEN CHALLENGE DAY 15 REPORT

SOIL

Overview of the Challenge

Today's challenge invited us to reimagine soil not as inert dirt, but as a living system capable of healing the Earth. Through the lens of regenerative gardening, we were asked to design a theoretical garden that restores soil health, supports biodiversity, and nourishes both people and planet. The challenge emphasized that regeneration can begin anywhere—even in a pot on a windowsill or a patch of campus ground.

Objectives of the Challenge

Today's challenge invited us to reconnect with soil by designing a regenerative garden. We began by watching a video on how organic practices build life underground—through composting, crop rotation, and biodiversity. Then, we chose a space where regeneration could begin, even a small patch or pot. Using guides like the Beginner's Gardening Guide and Kiss the Ground's Regenerative Living Guide, we created a garden plan that restores soil, supports wildlife, and nourishes people. We reflected on plant choices and climate-friendly methods, then shared our vision through a sketch and caption. This challenge reminded us that healing the Earth starts with soil—and regeneration can begin right outside our door.

Regenerative Practices

1. **Composting**

   Inspired by the Organic Center's video, I'll compost kitchen scraps and garden waste to return organic matter to the soil. Compost feeds microbes, improves water retention, and reduces methane emissions from landfills (Smith et al., 2016).

2. **Cover Cropping & Soil Armor**

   I'll use cowpea and sweet potato vines as living cover crops to shield the soil from erosion and heat. According to Kiss the Ground's guide, bare soil disrupts microbial life and photosynthesis. Cover crops keep the soil cool, moist, and biologically active.

3. **Minimal Disturbance (No-Till)**

   Rather than digging or turning the soil, I'll use hand planting and mulching to preserve soil

structure. Tillage releases stored carbon and disrupts fungal networks. Low-disturbance methods protect the soil's living architecture (Lal, 2020).

4. **Biodiversity Enhancement**
   By mixing plant families and heights, I'll create a layered garden that supports insects, birds, and microbes. Diversity builds resilience—each species contributes to nutrient cycling, pest control, and carbon sequestration (Altieri, 1999).

5. **Living Roots Year-Round**
   I'll stagger planting times to ensure that roots are always feeding the soil. Living roots pump carbon-based exudates into the soil, sustaining microbial life and improving structure (Kiss the Ground, 2023).

Resource Insights

The challenge drew on several key resources:

i. The Organic Center Video emphasized how organic farming builds soil health by avoiding synthetic inputs and supporting microbial life.

ii. "5 Easy Ways to Make Your Garden Regenerative" highlighted simple practices like composting, biodiversity, and keeping soil covered.

iii. Kiss the Ground's Regenerative Living Guide provided a systems-based approach to soil restoration, integrating Indigenous wisdom and ecological science.

Theoretical Regenerative Garden Plan

Location: Outdoor patch beside your house, where black loamy soil already supports a pot flower
Size: Small household garden (~2m x 3m)
Climate Zone: Tropical savanna (Accra region)
Soil Type: Black loamy soil—rich in organic matter, well-draining, and ideal for biodiversity

Plant Selection (6 Plants)

Plant	Purpose & Benefits

Cowpea (Vigna unguiculata)	Nitrogen-fixing legume that enriches soil, improves fertility, and provides protein-rich food.
Sweet Potato (Ipomoea batatas)	Sprawling vines protect soil from erosion, offer nutritious tubers, and support microbial life.
Moringa (Moringa oleifera)	Deep-rooted tree that improves soil structure, offers edible leaves, and attracts pollinators.
Sunflower (Helianthus annuus)	Breaks up compacted soil, attracts beneficial insects, and adds visual appeal.
Lemongrass (Cymbopogon citratus)	Natural pest repellent, stabilizes soil, and provides aromatic leaves for tea and medicine.
African Nightshade (Solanum scabrum)	Traditional leafy green that thrives in loamy soil and supports biodiversity.

These plants were chosen for their ecological synergy—some fix nitrogen, others provide ground cover, and all contribute to soil health, climate resilience, and human nourishment.

Regenerative Practices (3+ Methods)

1. Composting

- **Why:** Composting returns organic matter to the soil, feeding microbes and improving structure.
- **How:** Kitchen scraps and garden waste will be composted in a small bin and added to the garden weekly.
- **Impact:** Enhances water retention, reduces methane emissions, and boosts microbial diversity (Smith et al., 2016).

2. Cover Cropping & Soil Armor

- **Why:** Bare soil is vulnerable to erosion and heat stress.
- **How:** Cowpea and sweet potato vines will act as living mulch, covering the soil year-round.

- **Impact:** Protects soil from erosion, regulates temperature, and supports microbial life (Kiss the Ground, 2023).

3. Minimal Disturbance (No-Till)

- **Why:** Tilling disrupts soil aggregates and releases stored carbon.
- **How:** Seeds will be planted using hand tools, and mulch will be added to suppress weeds.
- **Impact:** Preserves soil structure, reduces carbon emissions, and supports fungal networks (Lal, 2020).

4. Biodiversity Enhancement

- **Why:** Diverse ecosystems are more resilient and productive.
- **How:** Plants from different families and heights will be intercropped to mimic natural systems.
- **Impact:** Attracts pollinators, improves nutrient cycling, and increases carbon sequestration (Altieri, 1999).

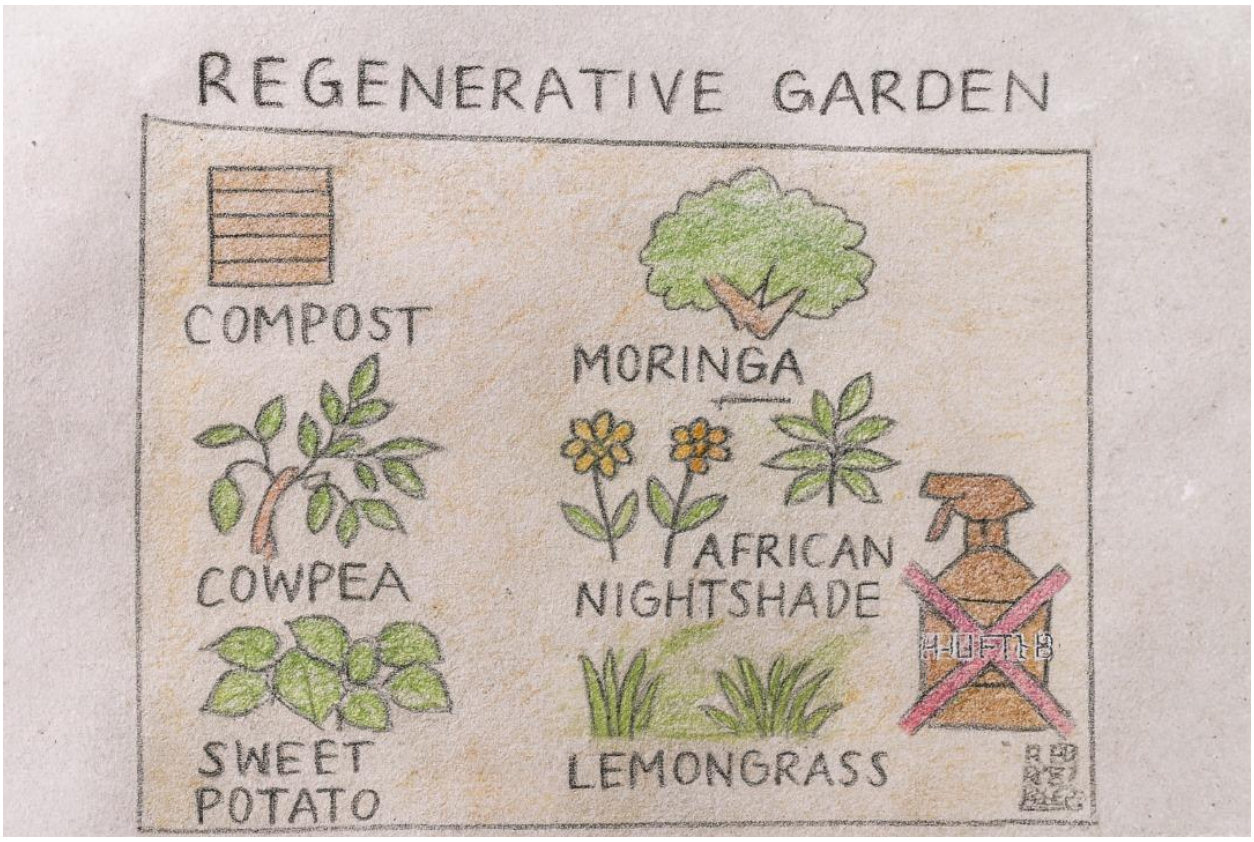
5. Living Roots Year-Round

- **Why:** Roots feed soil microbes through carbon exudates.
- **How:** Planting will be staggered to ensure continuous root presence.
- **Impact:** Sustains microbial life and improves soil fertility (Regenerative Living Guide, 2025).

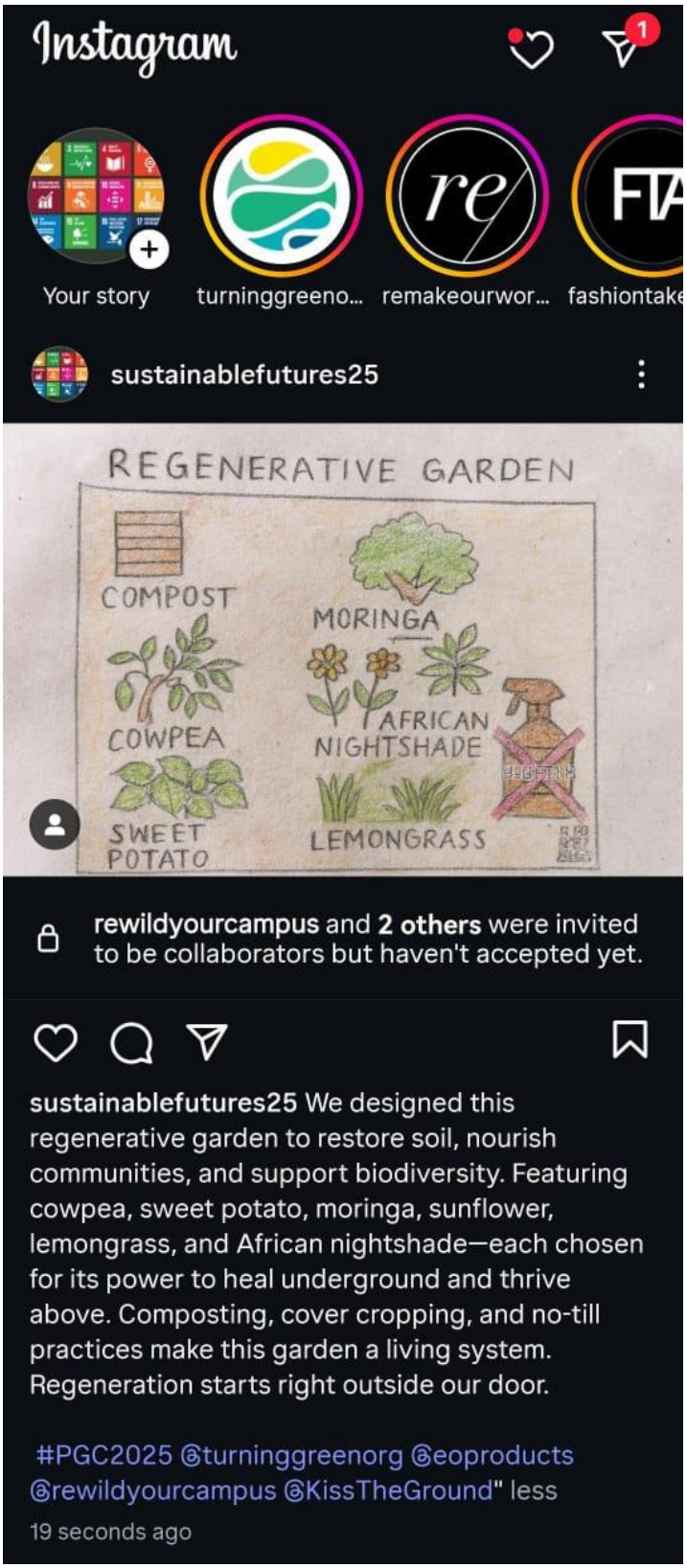
Conclusion & Call to Action

This challenge reminded me that regeneration isn't abstract—it's tangible, local, and deeply personal. A garden is more than a food source; it's a statement of care, a tool for climate action, and a sanctuary for life. Whether on a campus, balcony, or backyard, we all have the power to restore soil and rewild our spaces.

Let's compost. Let's plant. Let's protect the living skin of the Earth. Because healing begins beneath our feet.



Sketch of our garden



Social Media Post

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