Regenerative agriculture evidence in Embu and Tharaka Nithi Counties

November 2025

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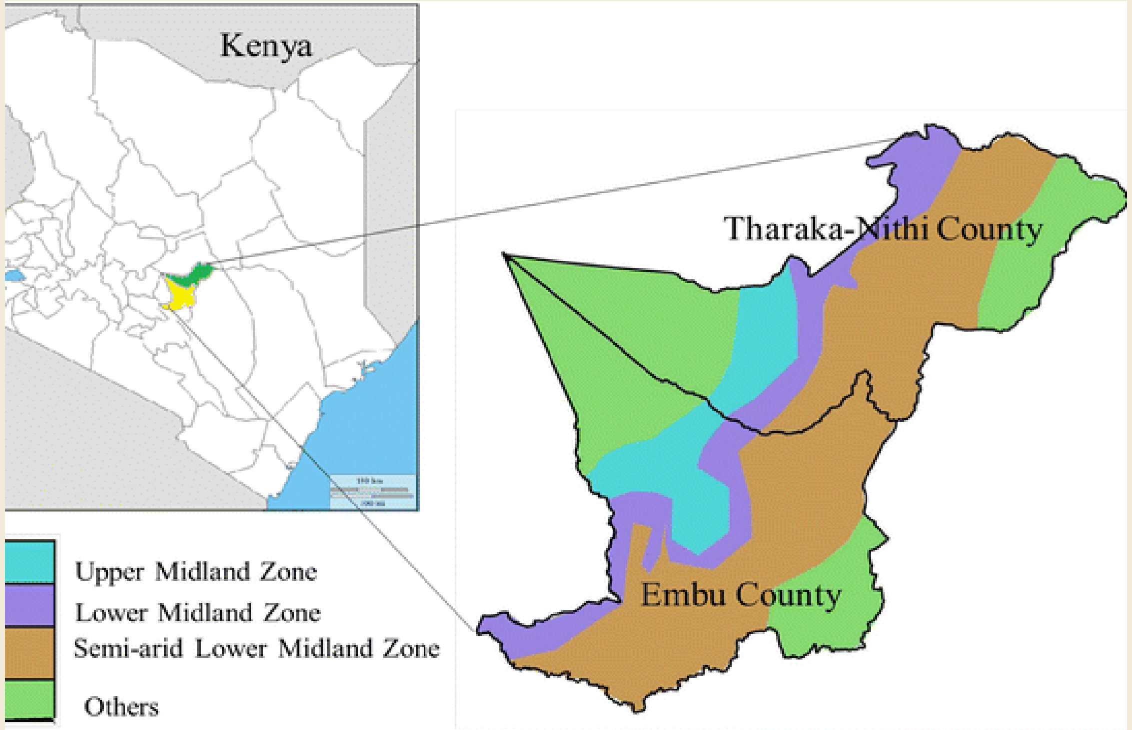
AGRA and Farm Africa Strengthening Regenerative Agriculture (RA) Project in Kenya



Embu County: 30,000 farmers directly (120,000 indirectly)
Tharaka Nithi County: 20,000 farmers directly (80,000 indirectly)

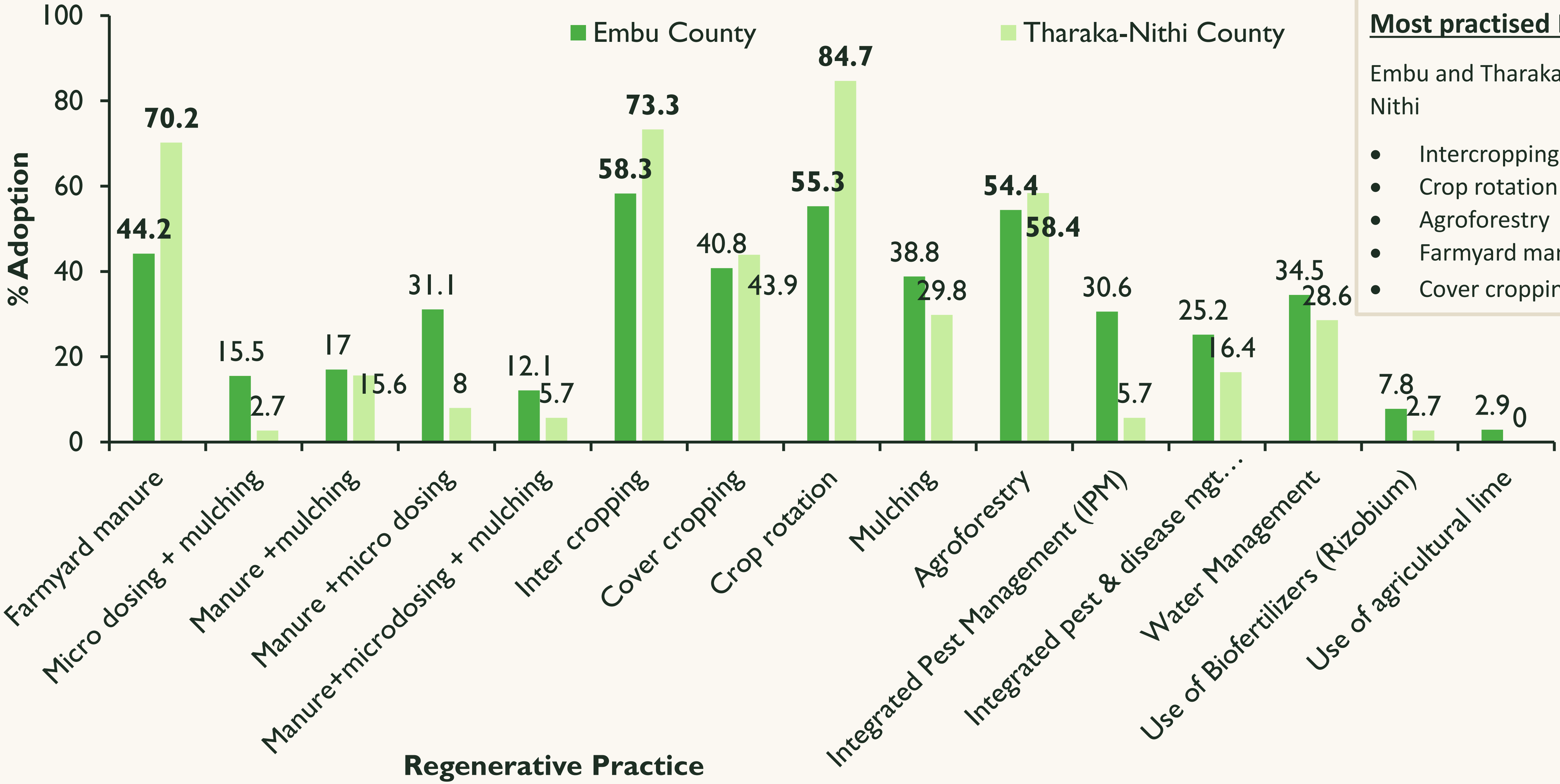
Target value chains:
Main crops: maize, sorghum, green grams, beans, soybeans and pearl millet
Cross cutting value chains: poultry, goats, vegetables and agroforestry for resilience.

Project approach

Deepening and scaling out of Regenerative Agriculture

Strengthening the sustainability of the Village-Based Advisor model: to support in rolling out RA including use of farmyard manure, microdosing, cover cropping, crop rotation, establishment of agroforestry nurseries with fodder tree crops among others.

RA Practices in Embu and Tharaka Nithi-Kaizen International Report-2024

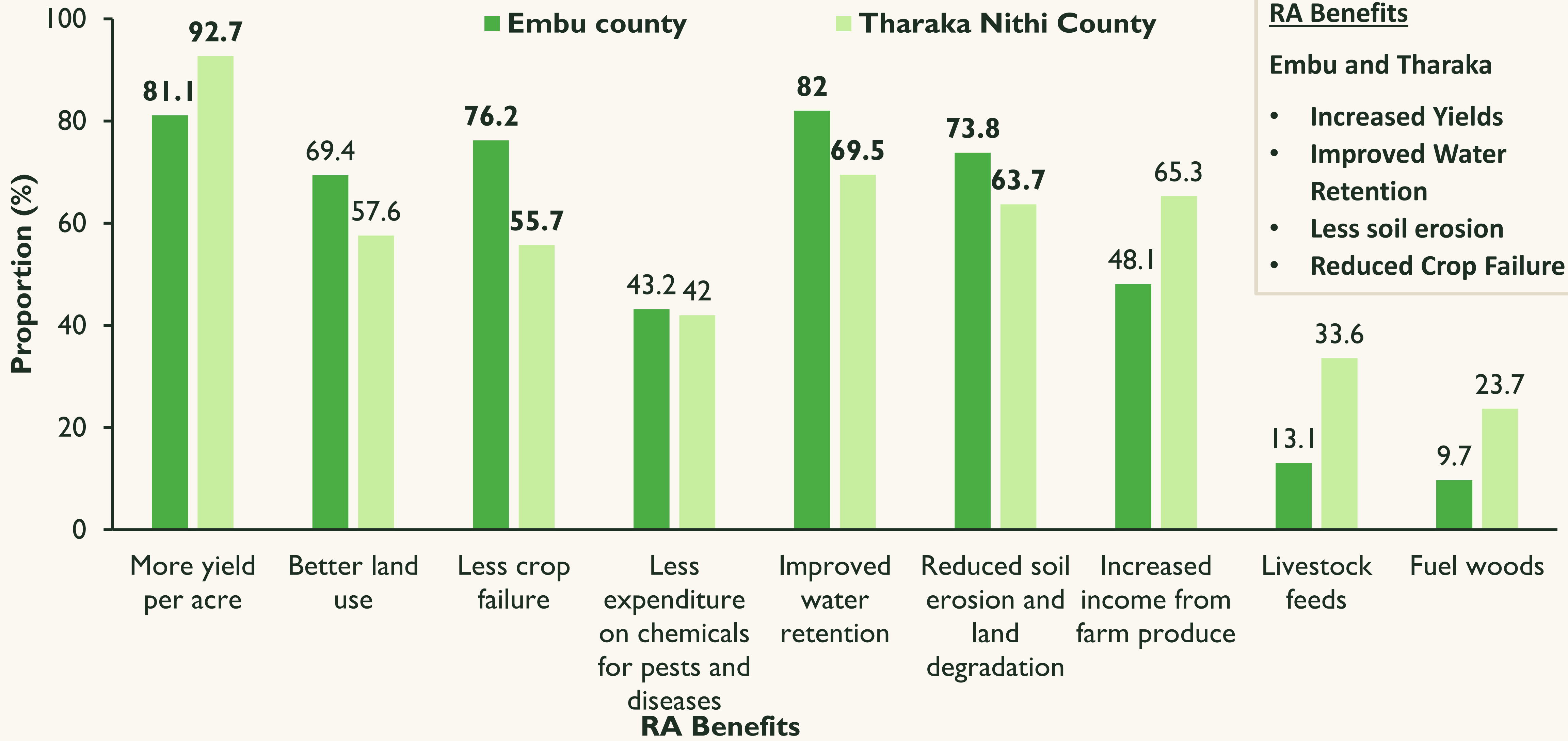


Most practised RA

Embu and Tharaka-Nithi

- Intercropping
- Crop rotation
- Agroforestry
- Farmyard manure
- Cover cropping

Benefits of Regenerative Agriculture practices in Embu and Tharaka Nithi-Kaizen International Report-2024



RA Benefits

Embu and Tharaka

- Increased Yields
- Improved Water Retention
- Less soil erosion
- Reduced Crop Failure

CIFOR-ICRAF 2025 Survey on increased Regenerative Agriculture impact

Analysis of 2,000 soil samples from Embu and Tharaka Nithi Counties.

Objective: Assess the impacts of RA practices on soil health for **productive, resilient** and **sustainable** farming system.

Key findings:

Cooling the soil: Mulching-based RA boosts infiltration (+19–38%)

Feeding the soil: Biomass transfer builds soil organic matter

Early soil biota gains: nematodes (+200%)

AMF (+63%): Increased colonization through symbiotic relationship between *Arbuscular Mycorrhizal Fungi* with plants roots

Conclusions:

Improves soil health: RA rebuilds organic matter, improves soil cover and water retention

Restores soil microbial diversity: By boosting nutrient cycling, improves soil structure, disease suppression.

Increases crop yields: By integrating cover crops, minimum tillage, composting, agroforestry the initiative boost crop yields.

Enhances landscape restoration: It enhances ecological restoration by promoting biodiversity.

Farmer driven at scale: RA is based on participatory methods ensuring participation of the local farmers and it is possible to do it at scale

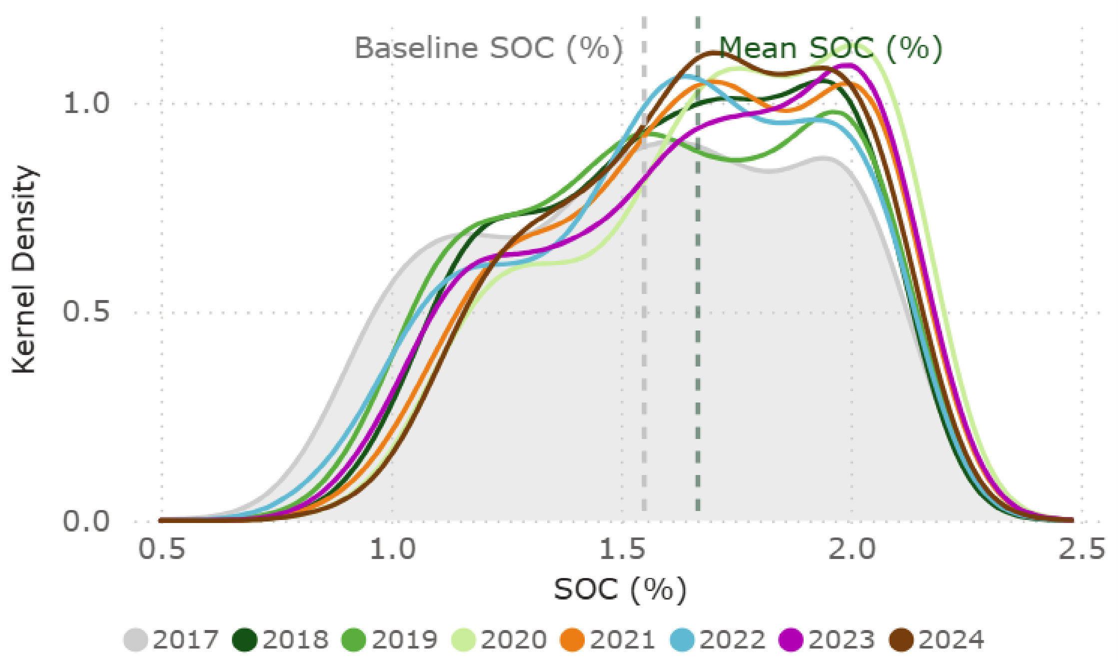
Implications: RA strengthens soil health and resilience

Downforce Technology: Soil Organic Carbon (SOC) Measurement at Farm Africa Regenerative Agriculture sites in Embu (A&B) County from 2017-2024 using satellite imagery and AI

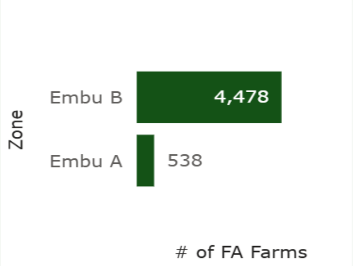
5,016	1.11M	48.24	4.07M
# of farms assessed	Total SOC (t)	Average SOC (t/ha)	Total SOC (t CO2e)

Shifts in Soil Organic Carbon Distribution Across Sampled Farms (2017–2024) - Embu A & Embu B

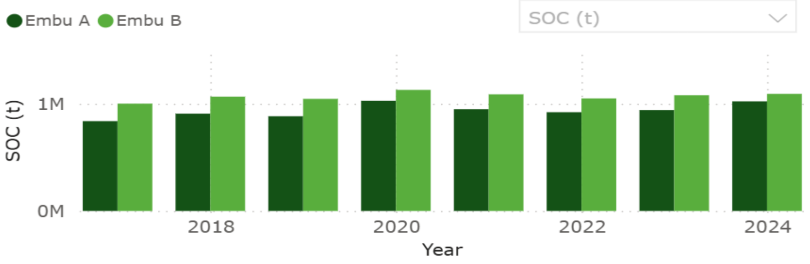
KDE-based density plot showing rightward shift in SOC (%) over time, with 2017 baseline shaded.



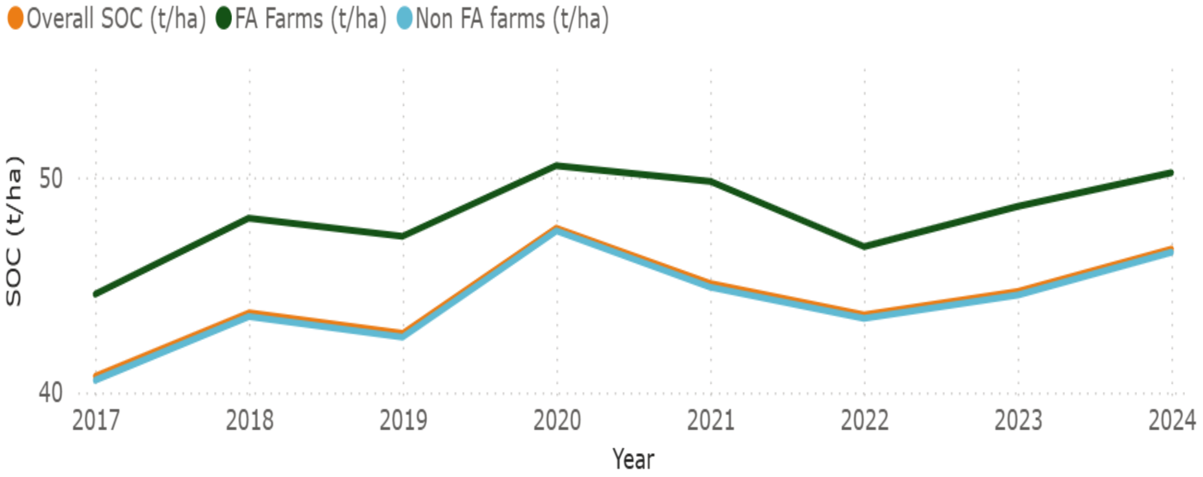
of FA Farms Assessed



SOC (t) per year for Farm Africa Supported Farms



SOC (t/ha) Trend Comparison — FA-supported (Embu A & Embu B) , Non-supported, and Embu Overall (2017–2024)



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Agroforestry Carbon Removal for Organic Restoration of Nature (ACORN) evidence

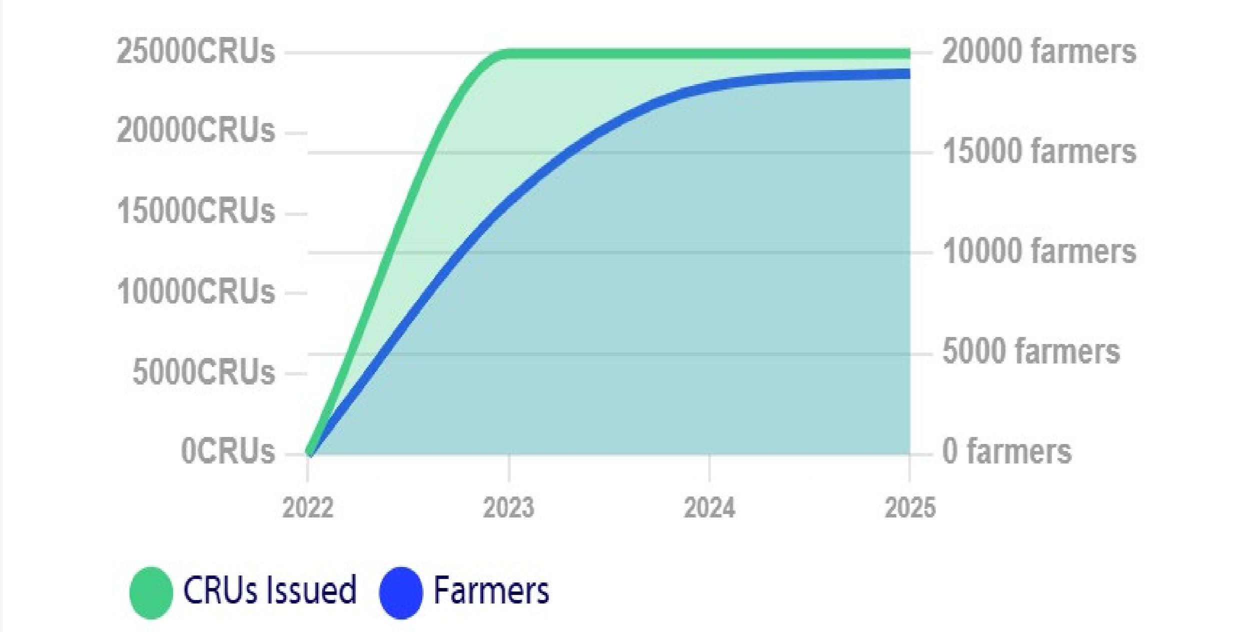
Rabobank and Farm Africa are implementing ACORN project helping farmers to transition to **regenerative agroforestry.** There is use of digital technology through satellite monitoring to measure carbon removal units (CRUs).

Achievements:

- Increased soil organic carbon
- Improved soil fertility and productivity
- Carbon sequestration
- Diversified income streams
- **Increased tree density as a result of regenerative agroforestry work**

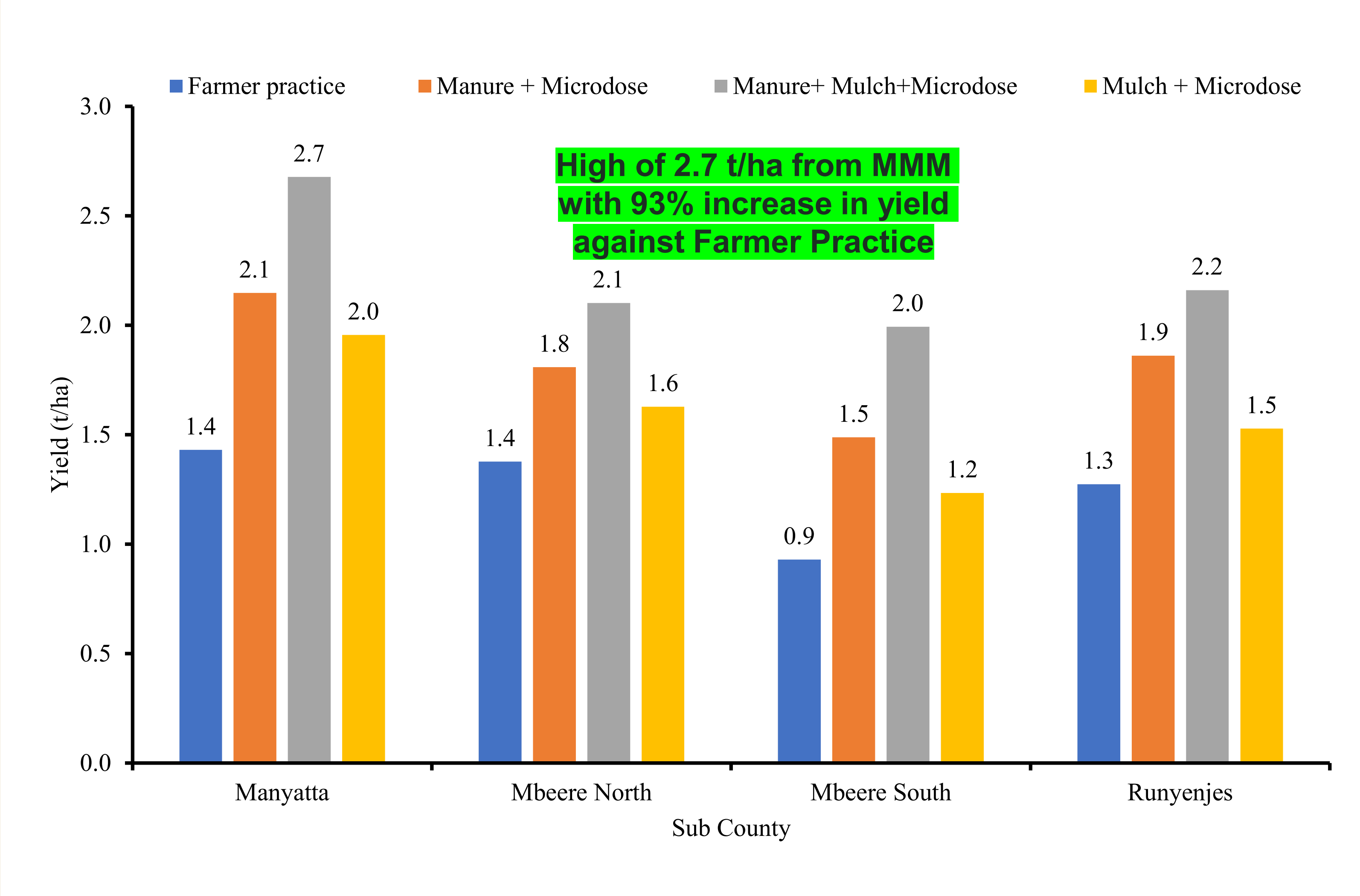
Summary:

Metric	Value
Number of farmers who have adopted agroforestry	21,658
Land under agroforestry	14,175 ha
Carbon captured	24,945 tonnes of CO_2
Carbon removal units issued	24,945CRUs
Amount of money paid to the farmers (both cash and in-kind)	Kshs 85,311,844



Embu County

Yields of maize grain from regenerative agriculture against normal farmer practices - Kaizen International Report 2024



RA practices Ranking

1. Manure + Mulch + Micro dosing, highest 2.7 t/ha, in Manyatta
2. Manure + Microdose, 2.1 t/ha in Manyatta
3. Mulching + Micro dosing, 2.0 t/ha Manyatta

Lowland sub counties like Mbere North and South had lower grain yield due to low rainfall amounts.

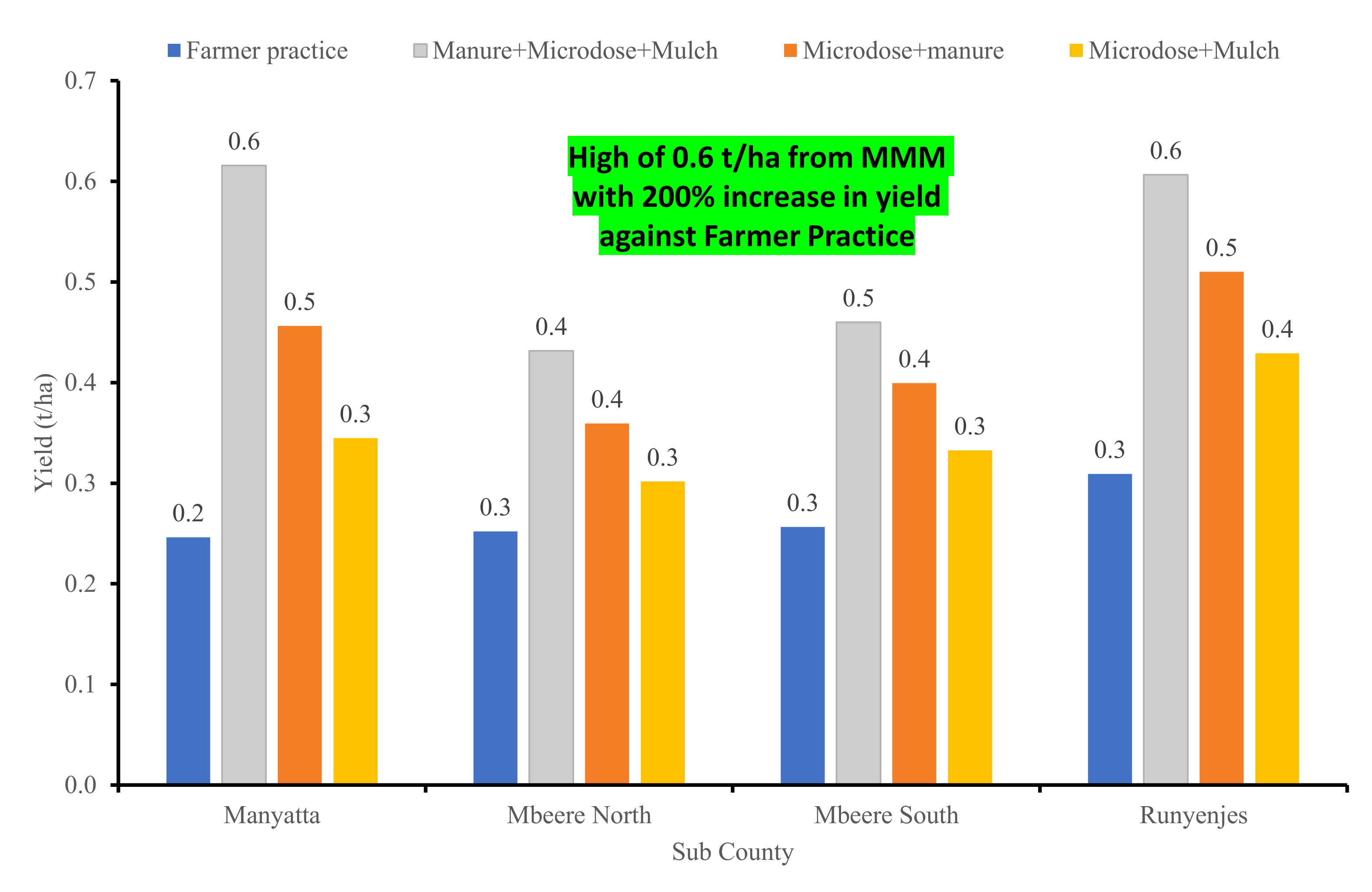
Embu County

Yields of bean grain from regenerative agriculture against normal farmer practices - Kaizen International Report 2024

Rank 1
- Manure+Mulch+Micro dosing, **leading in all sub counties)

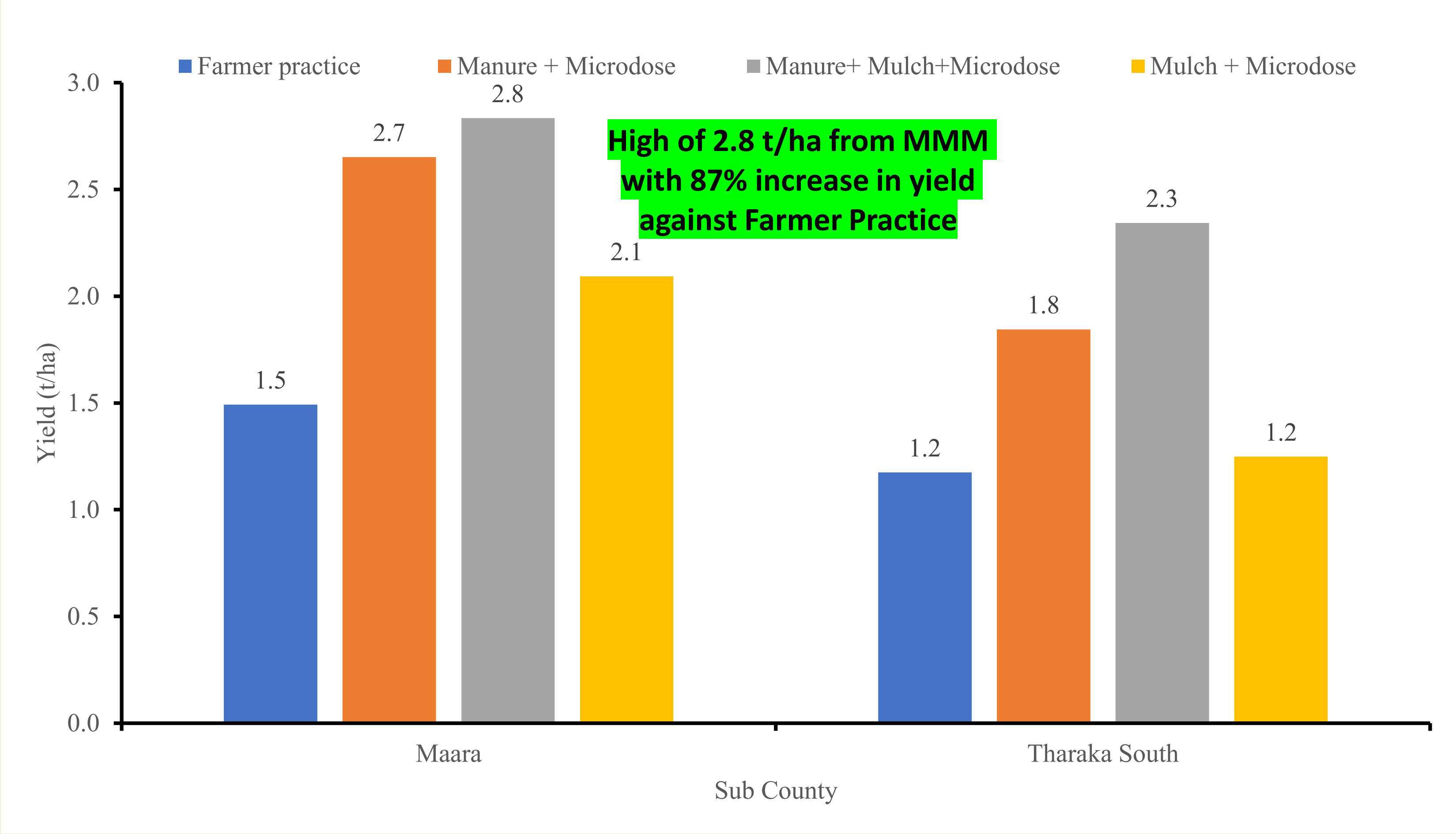
Rank 2
- Manure+Micro dosing
- ** Second in 2 sub counties

Rank 4
- Farmer Practice Lowest in all sub counties



Tharaka Nithi County

Yields of maize grain from regenerative agriculture against normal farmer practices - Kaizen International Report 2024



RA practices Ranking

1. Manure + Mulch + Micro dosing, highest 2.8 t/ha, in Maara
2. Manure + Microdose, 2.7 t/ha in Maara
3. Mulching + Micro dosing, 2.1 t/ha in Maara

Tharaka Nithi County

Yields of bean grain from regenerative agriculture practices against normal farmer practices -Kaizen International Report 2024

Rank 1

- Manure +Mulch + Micro dosing, 0.4 t/ha in Tharaka North
- **leading in all sub counties)

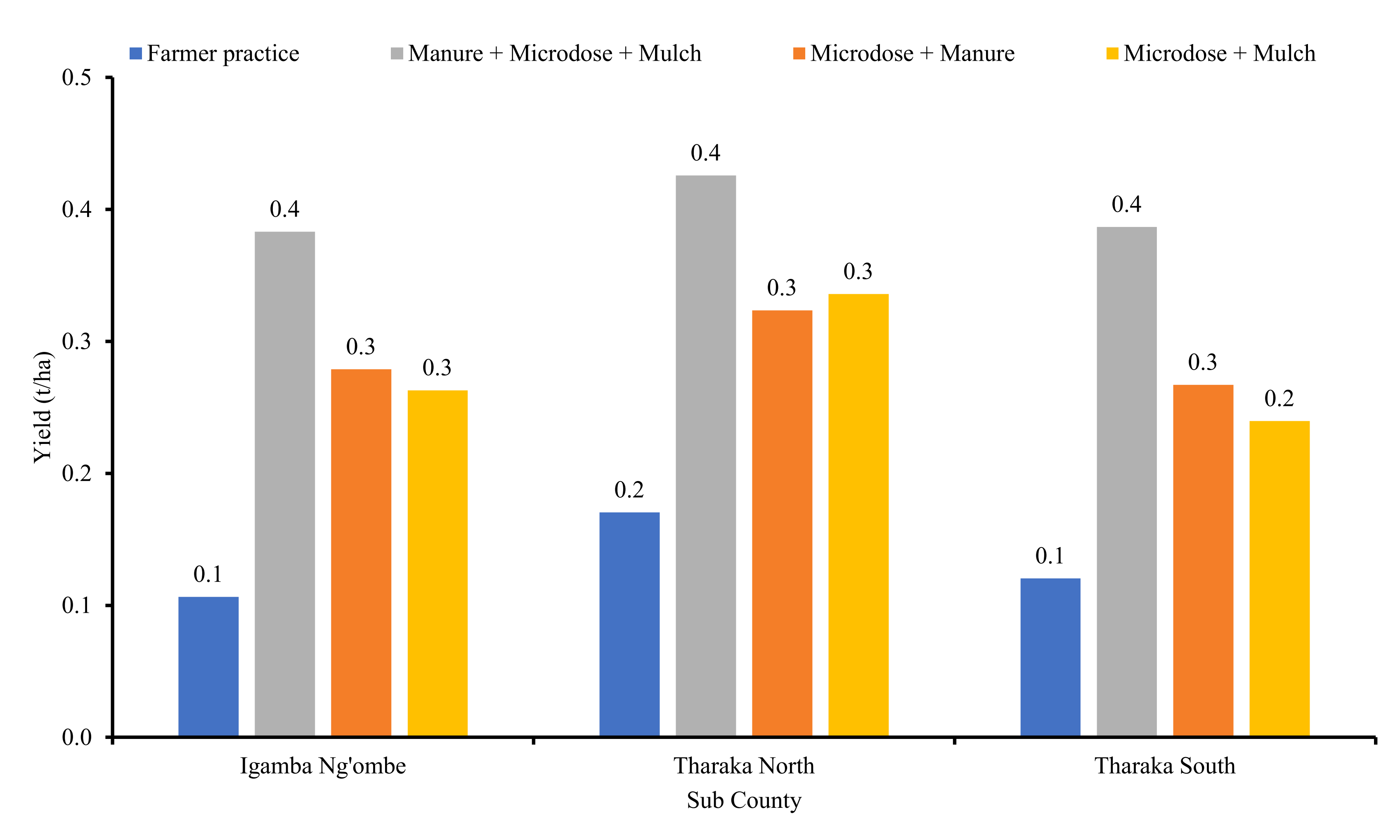
Rank 2

- Manure+Micro dosing Tharaka North at 0.3 t/ha
- ** Second in all sub counties

Rank 4

- Farmer Practice Lowest in all sub counties

High of 0.4 t/ha from MMM with 300% increase in yield against Farmer Practice



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Summary of regenerative agriculture practices' effectiveness

- MMM (Manure + Mulch + Microdose) consistently highest performer with over 81% yield per acre against the normal farmer practice.
- Farmer practice yielded lowest results in all trials.
- RA boosted productivity, resilience and soil health.
- Performance varied by crop and county.

NB

The report captures the crop yields derived out of Farm Africa experimentation/trial/learning sites of the Regenerative Agriculture (RA) technologies being promoted by the Strengthening Regenerative Agriculture in Kenya project during the March-April-May 2024 long rain season to show case the effectiveness of Regenerative Agriculture technologies namely; manure + microdosing + mulching, manure+ mulching and manure micro dosing compared to farmers' practice (conventional farming practice) in improving farm productivity. The data was collected and analysed by Kaizen International a consulting firm that was hired by AGRA.

Thank you

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