



Environmental Working Group Dialogue Series

June 2026



AMEA Environmental Working Group

Origins & Vision

- **Established:** 2024 AMEA Global Convening in Delft
- **Approach:** Sharing practical insights on how standards-aligned Business Development Services (BDS), Technical Assistance (TA), and professionalized agri-MSMEs can deliver environmental outcomes at scale.

Objectives in 2026

Our goal is to codify learning on how professionalized agri-MSMEs, cooperatives, and BDS providers can meet rising environmental and market demands through:

- **Regenerative Agriculture**
- **Green Economic Opportunities**
- **Carbon Markets**

Why This Matters

- Utilizing frameworks like **ISO 18716, BDS platforms, and network learning** to strengthen governance and management is key to unlocking the potential of FOs and Agri-SMEs as effective environmental actors.

2026 Deliverable(s)

- Environmental Dialogue Series Webinars (3)
- Position paper codifying member and sector learning



Business Development Services (BDS)

ISO 18176 – Professional Farmer Organization (FO)

Guidance

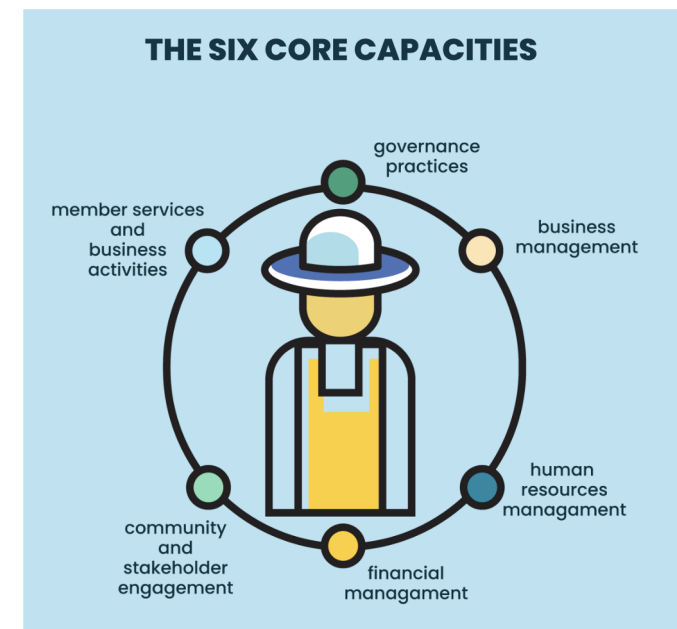
Professional FOs enable increased yields, productivity, market access, financing, and partnerships, ultimately boosting the organizations' and stakeholders' profitability, creativity, and socio-economic inclusion. ISO18716 aims to empower FOs to develop defined business capacities to unlock growth.

Business Development Services (BDS)

BDS refer to the support targeted at MSMEs to improve their performance and overall competitiveness. Traditionally defined as encompassing non-financial services many contemporary development models integrate capacity building outcomes directly with access to finance.

Why BDS Standards?

Professional FOs are critical to economic growth. Presently, support to FOs is highly fragmented. AMEA is building a common language by which FOs, BDS providers, and investors can measure progress together.





ENVIRONMENTAL
DIALOGUE SERIES
WEBINAR

Reducing Agricultural Risk Through Soil Intelligence and Standards-Aligned Technical Assistance

PANELISTS



Tom Cadogan
Director of Programmes
Farm Africa

 **FARM AFRICA**



Peter Moss
CEO
Farm Africa

 **Downforce
TECHNOLOGIES**

FACILITATOR



Casey Harrison
Chief Sustainability Officer
Nuru & AMEA

 **nuru**



11TH JUNE, 2026
16:00 CEST (50 MINS)

REGISTER NOW:

Be part of shaping climate-
aligned BDS ecosystems

www.amea-global.com/book-edsw





The 3rd AMEA Environmental Webinar

with
Farm Africa and Downforce Technologies



Downforce
TECHNOLOGIES

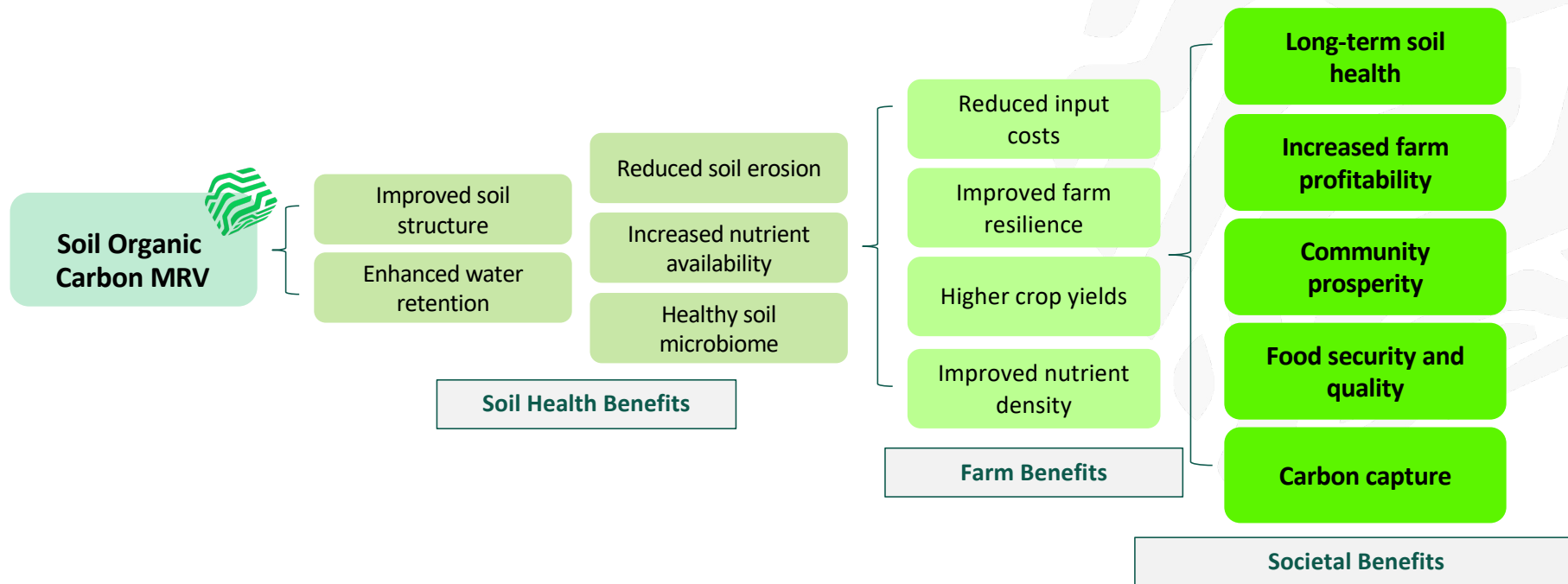
Measuring soil health at scale

Our mission

To accelerate the global transition towards sustainable agriculture to strengthen climate resilience and boost farm productivity.



Why focus on soil organic carbon?



Manage soil health. Build resilience. Capture carbon



Sampling vs Hybrid Analysis

Traditional Physical Sampling

- Measures SOC at a specific point in time and location
- Used to generate statistical estimates across a field or farm
- Requires physical collection and lab analysis

Hybrid Measurement and Modelling

- Uses various data sources to estimate SOC across an entire field, farm or landscape
- Embraces the variability within a complex ecological system
- Captures changes over time, with data collected every 10 days and averaged annually
- Assesses land in 10m x 10m blocks, enabling detailed spatial analysis

Together, these methods offer a powerful insight into absolute stock and relative change over time

Our MRV approach:

Data fusion and empirical modelling, grounded in science

Building on two decades of progress in digital soil mapping of SOC stocks (McBratney et al., 2003; Keskin et al., 2019), we integrate statistical, theory-based, and machine learning models to create a digital twin. This approach fuses data to accurately and cost-effectively track SOC changes and provide insights into soil health.



Verified data from local and national services



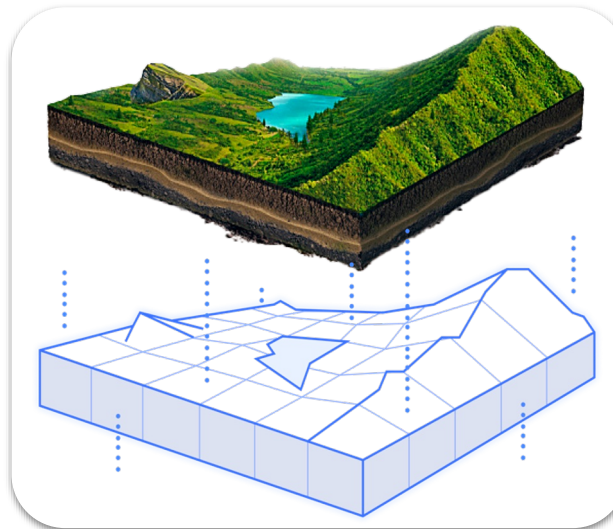
Geophysical, ecological and environmental data sets



Globally harmonised information and databases



Airborne and satellite observations



Scientifically and empirically validated approach that captures the intrinsic variability of terrestrial systems.



Cost-effective, scalable remote MRV provides absolute and relative to baseline measurement of SOC.

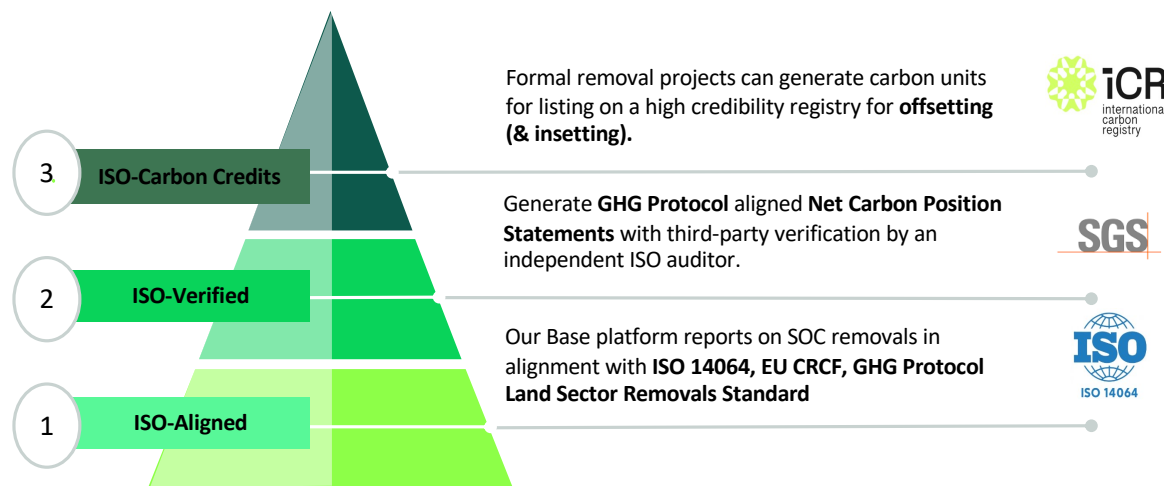


Millions of observations underpin robust baselining and future insights; assimilation of local new data types.



Globally relevant results from 10m² up to landscape and continental scale aligned to IPCC and UNFCCC.

Standards aligned and grounded in science



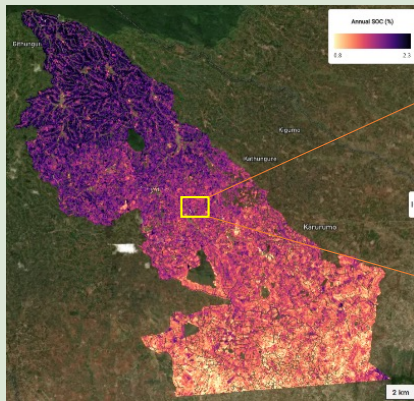
Our founder is Professor Jacqueline McGlade.

As Chief Scientist of UNEP and head of the European Environment Agency she created global programmes that advanced climate and biodiversity scientific infrastructure.

Jacque founded Downforce to marry the scientific and the practical, as evidenced by our partnerships with industry bodies, universities and commercial organisations.

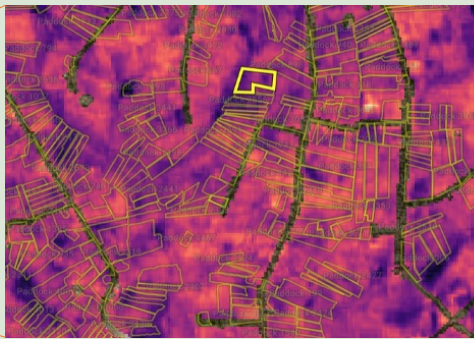
Downforce soil analysis for Farm Africa in Embu County, Kenya

Regional Scale



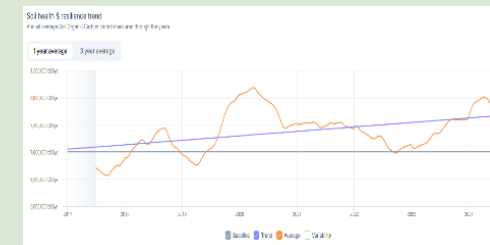
- Regional Assessment of 46,000 hectares
- Accurately map soil carbon stocks, variability and change over time at 10m resolution, every 10 days from 2018 to the present at 30cm depth
- A hybrid analysis combining ground truth data and satellite observations

Thousands of Farms



- Overlay thousands of small holder farm boundaries onto the assessment
- Assess the soil carbon stocks and soil health of the farms
- Compare the SOC of the farms that were involved in the project with the regional background

Understand the Improvement



- Calculate the change over time for the region
- Calculate the change over time for the farms
- Determine the change in soil carbon stocks resulting from the project interventions.
- **Evidence to demonstrate increase in climate resilience through healthier soil**

MEASURING WHAT WE MANAGE

Soil data and standards-aligned advisory de-risk smallholder farming

Two independent measurement systems verify that regenerative agriculture (RA) is rebuilding soil — **CIFOR-ICRAF** ground sampling and **Downforce Technologies** satellite + AI. Paired with Farm Africa's business-and-technical advisory, the result is lower production risk for farmers.



CIFOR-ICRAF soil sampling

Standards-aligned field protocol

- Paired RA vs. farmer-practice plots; 8 m × 8 m layout, five composited cores at 0–20 cm, accredited lab analysis
- Broader survey of 2,000 soil samples across Embu & Tharaka Nithi confirms the trend at scale



Downforce Tech measurement

Satellite imagery + artificial intelligence

- Models soil organic carbon (SOC) at Farm Africa RA sites in Embu, 2017–2024 — a continuous, low-cost record
- Remote sensing lets monitoring scale to tens of thousands of farms without per-plot lab costs

Why measured soil + advisory lowers risk

+80%

water infiltration under mulch-based RA — more rain stored, fewer failed seasons

24–46%

longer non-stress soil moisture; crops withstand 19-day dry spells

up to 85%

less soil erosion (RUSLE), protecting the topsoil farmers depend on

FROM SOIL CARBON TO PLATE AND POCKET

Rising soil organic carbon drives better nutrition and stronger incomes

+7.0%

soil organic carbon

vs. conventional farmer practice, with total nitrogen up 7.7% — both statistically significant under CIFOR-ICRAF's paired sampling. Downforce satellite records confirm the same rising SOC trend at Embu sites, 2017–2024.



Village-Based Advisors deliver Farm Africa's business + technical



Better nutrition

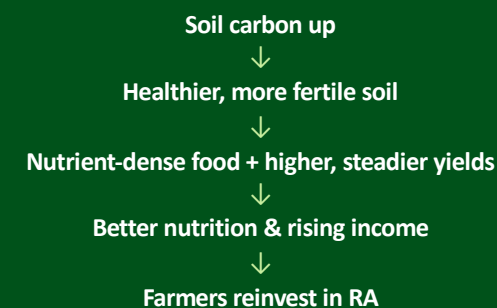
- Higher SOC feeds soil biology and improves micronutrient cycling (Fe and Mn show the largest gains).
- RA maize & sorghum hold or raise grain iron and zinc — no nutrient dilution despite higher yields.
- Tighter Fe–Zn coupling in grain directly counters “hidden hunger” in staple-dependent households.



Stronger income

- Carbon-rich soil lifts yields: integrated RA bundles raised maize up to +16%, and trial sites hit 2.7–2.8 t/ha.
- More infiltration + less erosion means fewer failed seasons — steadier output and income.
- SOC itself becomes income: via ACORN, verified carbon removals paid farmers KSh 85.3 million.

THE LOOP



HOW THE GAINS WERE ACHIEVED

Farm Africa's combined business + technical advisory, proven at scale



21,658

farmers in
regen. agroforestry

14,175

hectares under
agroforestry (ha)

24,945

tonnes CO₂ captured
& issued as units

KSh 85.3M

paid to farmers
(cash & in-kind)



The takeaway

Independent soil data turns regenerative farming from a promise into **measured, bankable risk reduction** — healthier soil, more nutritious food, and more reliable income for smallholders.

Standards-aligned technical assistance, delivered through Village-Based Advisors, pairs agronomy (manure + microdosing + mulching, agroforestry, cover crops) with business advisory and market links — so practices stick and pay.

Source: ACORN (Rabobank × Farm Africa); Downforce-monitored SOC

Soil data (CIFOR-ICRAF + Downforce) + standards-aligned business & technical advisory = lower agricultural risk for smallholder farmers



Discussion

Segmentation & Technical Assistance

What core capacities and standards-aligned BDS support are needed to translate soil intelligence and other regenerative practices into farmer or farmer organization action?

Financial Sustainability & Ownership

Who should pay for long-term digital soil monitoring - cooperatives, agri-SMEs, off-takers, carbon buyers, or others?

Blended Finance & Scale

Can blended finance (embedded with TA facilities) make soil intelligence more affordable, investable, and/or scalable for farmer organizations and agri-SMEs?

Big Picture

What is needed to move soil intelligence from project-funded pilots to self-sustaining market systems?