

SOIL HEALTH INITIATIVE (PERU)

PROJECT UPDATE

FEBRUARY 2026

The Soil Health Initiative is a two-year project (2025–2026) in San Martín and Amazonas, Peru, helping smallholder coffee farmers improve soil condition, increase yields, and reduce the climate impact of coffee production. It is led by Falcon Coffees Perú, funded by the responsAbility Climate Smart Agriculture & Food Systems Fund, and supported by Siruma Coffee Sustainability.

1. Project purpose and approach

The project worked with 310 coffee farmers in Year 1, with a target of 600 farmers by Year 2. Its main aim is to gradually improve soil health and farm productivity while reducing the carbon footprint of coffee.

To do this, it combines:

- Group training on soil care, fertiliser use, and waste management.
- Regular one-to-one technical visits to each farm.
- Soil testing and simple, tailored fertilisation plans.
- Measurement of farm-level greenhouse gas emissions.

2. Why the project is needed

An initial survey of the 310 farmers showed clear needs:

- 52% had not received any training in the previous year, so there is a large knowledge gap.
- Average yield is about 850 kg/ha of parchment coffee, and around two-thirds of plots are below this level, showing considerable room for improvement.
- 65% of farmers apply fertilisers without technical guidance, which can waste money and harm soils.
- Over 45% manage coffee pulp poorly, and more than 70% do not treat processing water, increasing pollution and emissions.

These findings confirm that targeted support on soil, fertiliser and waste management is necessary to protect soils, improve incomes and reduce environmental harm.

3. Main activities and results in Year 1 (2025)

3.1 Team and farmers

- A small field team was hired early in 2025: one lead technician and two field technicians.
- 310 farmers (249 men, 61 women) were selected based on minimum coffee area, accessibility, and

willingness to participate, and all signed commitment letters.

3.2 Training and farm visits

- 45 training workshops were held between August and November 2025, covering:
 - Coffee plant nutrition and efficient fertiliser use.
 - Composting of coffee pulp and treatment of “honey water” (processing effluent).
- 302 farmers attended at least one workshop; in several districts, almost all invited farmers attended.
- 625 individual farm visits were carried out (around two per farmer on average, more for priority farms), to give tailored advice, check progress, and solve problems on site.

These activities have already improved farmers’ understanding of soil and fertiliser management and encouraged better waste handling.

4. Soil tests, farm plans and emissions baseline

4.1 Soil analysis and farm plans

- 350 soil samples were taken from participating farms and analysed for key properties such as nutrients, organic matter, pH and texture.
- Results show that some nutrients (for example calcium and magnesium) are generally at good levels, but nitrogen, phosphorus, potassium, organic matter and pH are often too low, limiting yields.
- With support from the soil specialist, the project created a fertilisation plan for each farm, using locally available and affordable inputs and adjusting to each farmer’s circumstances.
- These plans were tested with a smaller group of 30 farmers, refined, and will be applied widely from March to May 2026, when fertilisation is most effective.

The project also grouped soils into four “traffic light” categories (low, moderate, high, very high degradation) and produced a simple map showing where soils are most damaged, helping the team focus extra support on those areas.

4.2 Carbon footprint baseline

- Emissions were calculated for 303 of the 310 farms, covering only what happens on the farm: input use, field work, and processing.
- On average, farms emit 3.8 kg of CO₂e per kg of green coffee.
- Poor management of coffee pulp is the main emission source; farms that do not compost can emit up to three times more than those that do.
- Shade trees on farms reduce emissions by about 14.9%, showing their importance in capturing carbon.

This baseline provides a clear starting point to track and reduce emissions over the next years.

5. Overall progress and next steps

By the end of 2025, the project:

- Built a solid baseline for soil condition, farm practices, yields and emissions.
- Trained hundreds of farmers and provided regular, personalised support.
- Completed 350 soil tests and designed practical, tailored fertilisation plans.
- Identified where soils are most degraded so that support can be focused there first.

In 2026, the project will:

- Enrol around 300 additional farmers and repeat the baseline, soil testing and planning process with them.
- Help all farmers implement their fertilisation and soil-care plans and continue farm visits and trainings.
- Monitor changes in soil health, yields, and emissions relative to Year 1.

Because soil improvement and yield gains take time to appear fully, the report recommends extending support beyond 2026 to firmly secure and expand the benefits already started.

