

A close-up photograph of a person's hand, wearing a light-colored long-sleeved shirt, holding a small cluster of ripe, red coffee cherries. The hand is positioned over a large, dark wooden tray or bin that is filled with thousands of similar coffee cherries. The cherries are mostly red, with some showing green, indicating different stages of ripeness. A thin, bright green line is drawn across the image, starting from the left, curving around the hand, and ending on the right, framing the central subject.

NESCAFÉ PLAN 2030

PROGRESS REPORT 2023

NESCAFÉ®



FROM FARM TO CUP, HELPING MAKE THE WORLD BETTER

At *Nescafé*, a small cup of coffee makes a huge difference. We work with coffee farmers on sustainable practices that help enhance resilience to climate change, improve incomes and build stronger coffee communities. We believe we all need to work together to uplift lives and livelihoods through every cup, and give everyone a chance to,

Make your world

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DRIVING POSITIVE CHANGE TO ADDRESS COMMON CHALLENGES

Transitioning to regenerative agriculture practices continues at pace



PHILIPP NAVRATIL

Senior Vice President,
Head of Coffee Strategic
Business Unit, Nestlé

Climate change is now affecting agriculture in many regions, including where we and others source coffee. Weather events such as water stress, flooding and drought, together with the depletion of soils and loss of biodiversity, make our commitment to the *Nescafé Plan* even stronger. We want to help create a bright future for coffee and the people that grow it and this is our plan to help us get there.

In 2023, we continued to make progress on increasing the uptake of regenerative agriculture among coffee farmers in our supply chain. This supports our vision to reduce greenhouse gas emissions, increase farmers' income and contribute to enhanced

social conditions. From our work so far, our agronomists and partner organizations consistently report the following: many of the farmers practicing regenerative agriculture techniques are highly engaged with the practices, which can make them more resilient to environmental impacts, and improve their earning potential.

By the end of 2023, 92.5% of our global coffee supplies were Responsibly Sourced. In addition, coffee sourced from regenerative agriculture represented more than 20% of our total 2023 volumes. Our own actions were not the only factor at play in this transition toward regenerative agricultural practices. Many experts, both within our company and from partner organizations in the field, are playing critical roles in the *Nescafé Plan*. As farmers use techniques such as intercropping or soil analysis for the first time, technology and community groups are helping them to share their experiences and learn from others.

As you will read in this report, our teams and partners recorded double-digit greenhouse gas emissions

reductions for green coffee production among monitored farming groups. Farmers' yields have also risen in many monitored origins. We believe this is an indication that we are on the right path, and this is why we are continuing to expand our engagement. By helping farmers increase incomes and adapt to climate change, we can play our part in enabling all of us to enjoy our cups of coffee, long into the future.



THE NESCAFÉ PLAN 2030

Helping renew the world of coffee to uplift lives and livelihoods with every cup.

2030 Vision

An integrated strategy to use regenerative agriculture to help address climate change, aiming to:

REDUCE GREENHOUSE GAS EMISSIONS



INCREASE FARMERS' INCOME



CREATE BETTER SOCIAL CONDITIONS



Our goals:

By 2025

- 100% responsibly sourced coffee
- Source 20% of our coffee through regenerative agriculture methods

By 2030

- Source 50% of our coffee through regenerative agriculture methods
- 50% greenhouse gas emissions reduction



AGROFORESTRY

Help farmers to improve soil health, water management and biodiversity by combining coffee with shade or border trees.



LAND RESTORATION

Support farmers to plant native trees to capture CO₂ in and around coffee farms, helping improve biodiversity and water management.



GREEN BORDERS (RIPARIAN BUFFERS)

Help farmers improve water sources and biodiversity by restoring vegetation along the water margins.



FINANCIAL SUPPORT

Supporting coffee farmers in accelerating their transition to regenerative agriculture practices.



HUMAN RIGHTS AND CHILD PROTECTION

Reinforcing monitoring and corrective actions across our value chains.



WOMEN AND YOUTH EMPOWERMENT

Enhancing business and financial skills through training, including record keeping and farm management.



OPTIMIZED FERTILIZATION (INCLUDING ORGANIC FERTILIZERS)

Support farmers to improve productivity and quality, helping reduce CO₂ and improve soil health by tailoring the fertilizer to the soil needs.



FARM RENOVATION

Support farmers to improve yield and quality, and to reduce CO₂, while aiming to improve income through pruning and/or the introduction of new and improved coffee varieties.



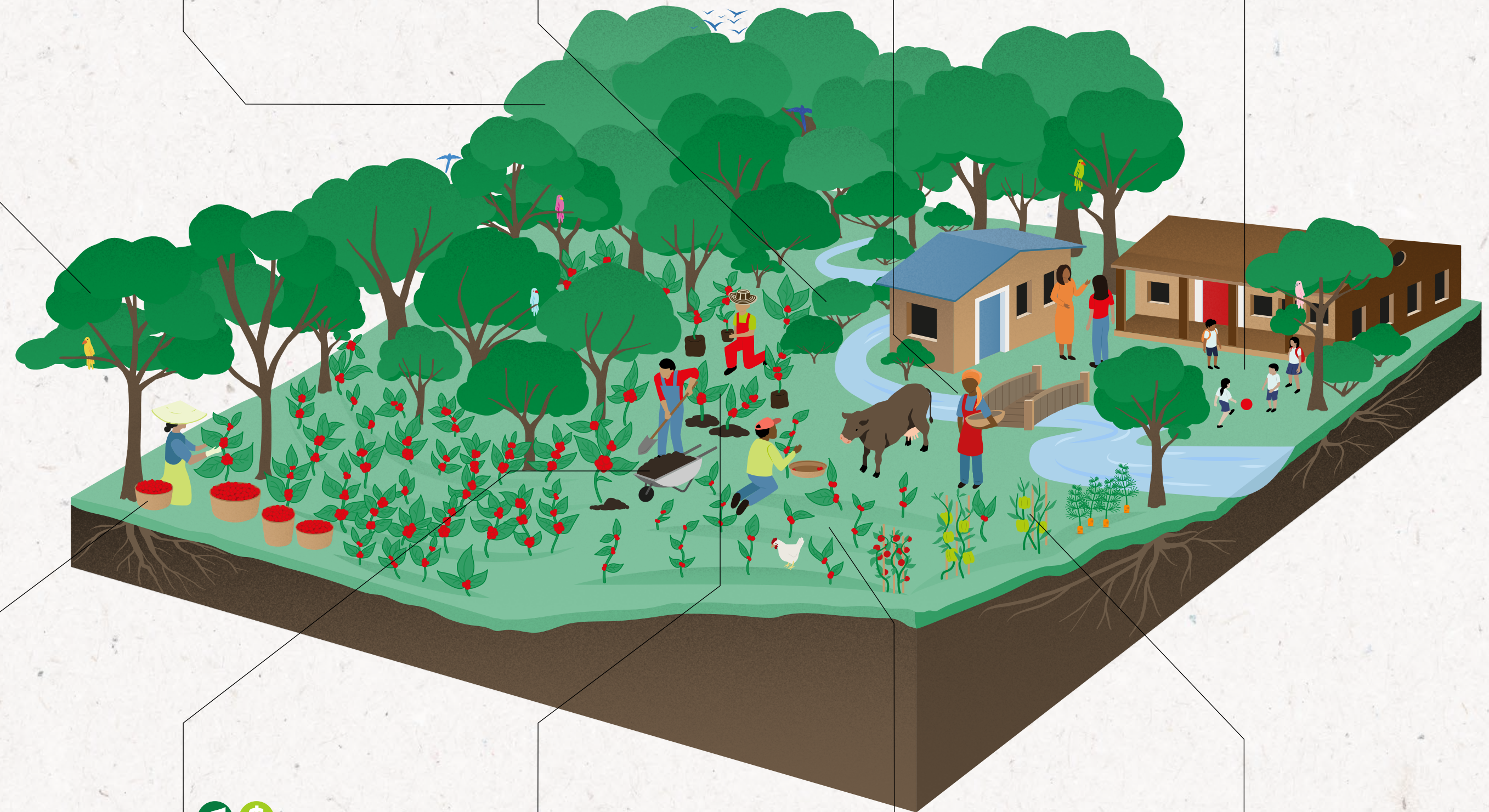
COVER CROPS

Help farmers to improve soil health and biodiversity, while reducing agrochemical usage.



INCOME DIVERSIFICATION (INCLUDING INTERCROPPING)

Promoting different crops within the coffee farm to enhance income diversification, soil health and biodiversity.



NESCAFÉ PROGRESS HIGHLIGHTS 2023

CULTIVATING POSITIVE CHANGE

ACTIONS

148,000 coffee farmers in 16 countries trained in regenerative agriculture in 2023.

More than **800 agronomists and specialist staff worked with coffee farmers** in Nescafé Plan field programs.

Distributed **21 million coffee plantlets to help farm renovation and rejuvenation** for better yields (cumulative total above 290 million since 2010).

Independent assessment of **regenerative agriculture practice adoption on 37 farmer units across 11 origins** in 2023.

The Nestlé Global Reforestation Program **planted more than three million trees in our coffee value chains** to capture carbon and support biodiversity (with a cumulative total of more than 4.5 million since 2022).

Started expanding conditional cash incentive schemes to **accelerate farmer transition to regenerative agriculture for more than 3,000 farmers in Côte d'Ivoire, Indonesia and Mexico.**

We supported a pilot deployment of **weather insurance for more than 800 small-holder farmers in Indonesia.**

We established **Agrinest, a social media platform for farmer-to-farmer connections and agricultural learning.** More than 1,600 farmers in Vietnam and 240 farmers in Indonesia are already using the platform and the number is rising.

In Honduras, during 2023 we **trained 12,000 young people from coffee communities** in entrepreneurship, coffee quality and **regenerative agriculture**, supporting the next generation of farmers to manage their farms better and produce better quality coffee.

IMPACT

92.5% of our coffee was **Responsibly Sourced*** globally, up from 87% in 2022.

~ 180,000 MT of coffee came from farmer units implementing **regenerative agriculture practices** (more than 20% of our total 2023 volume).

15% - 30+% lower greenhouse gas (GHG) emissions per kg of green coffee assessed for most origins in which primary data of GHG farming emissions was monitored, representing more than 20% of our green coffee supplies.




5% - 25% higher coffee yield per hectare in many monitored origins like Honduras, India, Philippines, Thailand and Vietnam.

* 'Responsibly Sourced' indicates coffee that has been sourced from segregated value chains and that is traceable to farmer units. These farmer units are part of certification or verification programs with independent checks versus external sustainability standards and are aligned with the Nestlé Responsible Sourcing Core Requirements. Our Reporting Scope and Methodology for ESG Key Performance Indicators document provides details and definitions and can be found here.

THE NESCAFÉ PLAN 2030 IN ACTION

How the *Nescafé Plan 2030* integrated strategy uses regenerative agriculture to help deliver positive change for farmers, their communities and the environment.

Regenerative Agriculture is the engine of change for *Nescafé Plan 2030*. It encompasses a range of interrelated actions that we expect will help address complex challenges and achieve our 2030 goals. In the following pages, we describe how we are deploying regenerative agriculture across our farmer field programs and supporting farmers to transition to regenerative agriculture. In this year's report, we are also focusing on how we are helping farmers optimize their fertilization practices with the right balance, to reduce GHG emissions and achieve better income results.

-  Reduce greenhouse gas emissions
-  Increase farmers' income
-  Create better social conditions



IMPLEMENTING REGENERATIVE AGRICULTURE

Regenerative agriculture is an approach to farming that aims to improve soil health and soil fertility – as well as protect water resources and biodiversity.

SUPPORTING FARMERS' TRANSITION TO REGENERATIVE AGRICULTURE

Tailored and financial on-the-ground support to enable coffee farmers to accelerate their transition to regenerative agriculture.

OPTIMIZING FERTILIZATION

Supporting farmers manage soil fertility to help them enhance productivity and incomes, while also reducing GHG emissions per kg of coffee.

IMPLEMENTING REGENERATIVE AGRICULTURE

By supporting regenerative agriculture through the *Nescafé Plan 2030*, we aim to improve productivity and resilience to climate change, benefitting farmers' incomes and reducing greenhouse gas emissions in our supply chain

- 🌱 Reduce greenhouse gas emissions
- 💰 Increase farmers' income
- 👤 Create better social conditions

Expanding regenerative agriculture knowledge and adoption

With a range of techniques that are adaptable to different growing conditions, farm sizes and farming models, regenerative coffee farming aims to improve soil health, biodiversity, and water cycles. This awareness is growing among farmers in our supply chain, and it requires the exchange of knowledge between our agronomists, the farmers, and suppliers. This year, we have continued to monitor the take-up of practices on farms, such as efficient compost and fertilizer use, crop diversification and mulching. We are now also partnering with more suppliers to encourage additional farmers to join the *Nescafé Plan 2030* journey.

Supporting farmer yields

We now have more than 800 agronomists working in the *Nescafé Plan* field programs, reaching more than 140,000 farmers. Relationship-building is key since new agriculture techniques often disrupt longstanding practices and may require time to see results.

Farmers in many origins like Honduras, India, Philippines, Thailand and Vietnam achieved 5% to 25% higher coffee yields per hectare when compared to 2022. In other origins, like Indonesia, coffee yields were negatively affected by adverse weather conditions.

Enhancing farm assessments

We work with the Rainforest Alliance to monitor and evaluate (M&E) the adoption rate of our regenerative agriculture practices. The analysis covers levels of soil organic matter, application rates and types of fertilizers and pesticides applied for different yield results. The monitoring also gathers data on other indicators, like the presence and maintenance of natural habitats and riparian buffers.

Expanding reach with suppliers

Nescafé is Nestlé's largest coffee brand and one of the world's favorite coffees. Our ambition is to play our part in securing the future of coffee. Regenerative agriculture is key to our support to farmers, and by working with partners and suppliers, we can help farmers achieve more resilient and profitable coffee farming.

We are now working more closely with key suppliers to expand the number of farmers engaged in the *Nescafé Plan 2030* and to scale up the volume of coffee we source from them. We are co-developing new field programs together with our suppliers, based on their farming expertise and their ability to run high-quality programs. By the end of 2023, we had started *Nescafé Plan* field programs with more than 10 new farmer units across eight origins, through key supplier partnerships.

USING TECHNOLOGY TO EFFICIENTLY MANAGE PROGRAMS

Recording and easily accessing reliable data is essential for us to monitor progress on our *Nescafé Plan* and identify opportunities for improvement. Our agronomists monitor and profile farmer units using the tablet-based Koltiva tool. Data points include farm locations, sizes and household composition.

Koltiva also records and enables the analysis of factors such as the rates of participation in training and the types of practices established on farms. Developed in 2022, the tool is now being used by *Nescafé* agronomists and partners in a growing number of our coffee-sourcing countries.

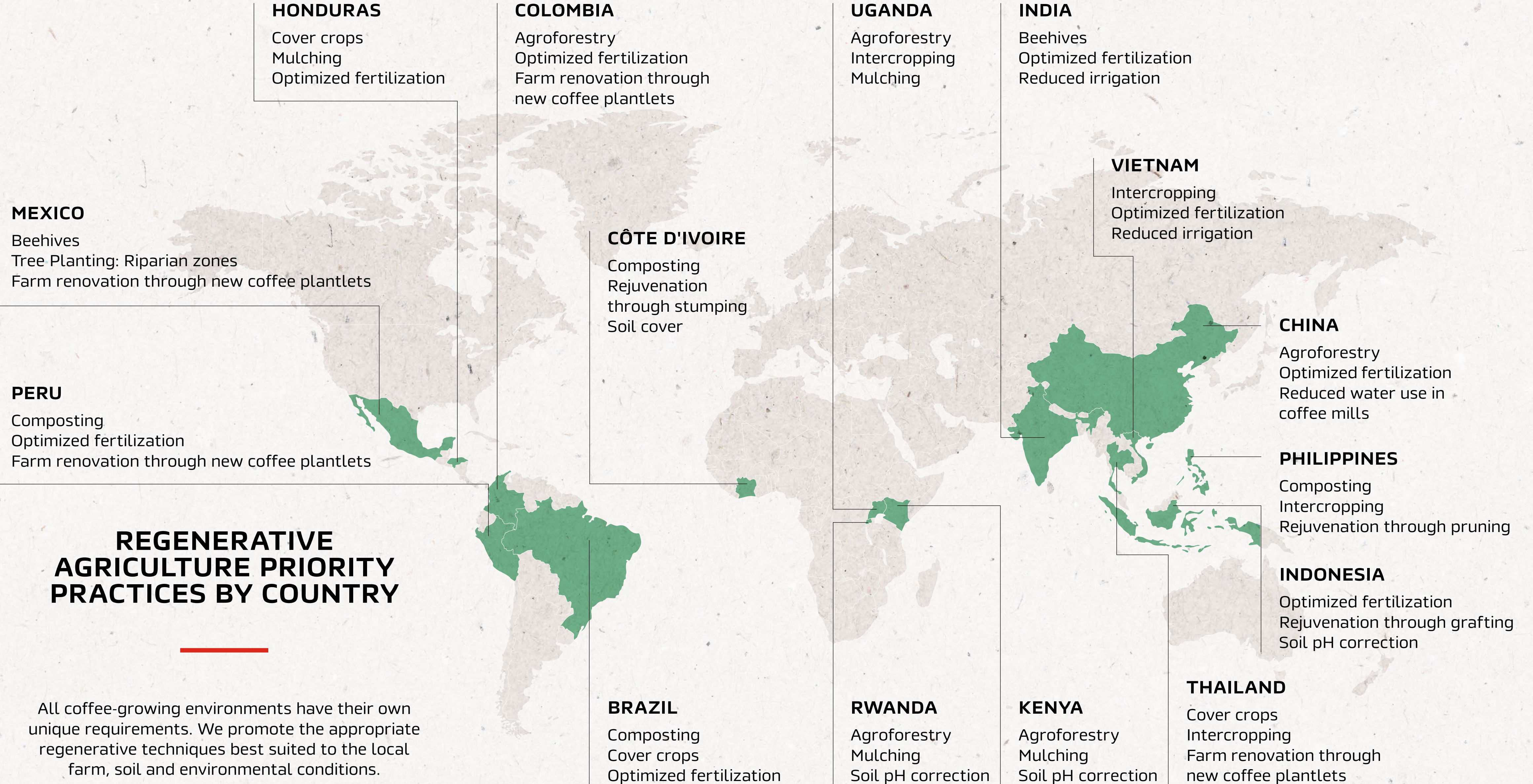


OUTLOOK

To increase the reach of the *Nescafé Plan*, we will continue enrolling more farmers in our regenerative agriculture journey. We will also expand engagement with the program through partnerships with key suppliers.

REGENERATIVE AGRICULTURE PRIORITY PRACTICES BY COUNTRY

All coffee-growing environments have their own unique requirements. We promote the appropriate regenerative techniques best suited to the local farm, soil and environmental conditions.



SUPPORTING FARMERS' TRANSITION TO REGENERATIVE AGRICULTURE

We recognize that the transition to regenerative agriculture might be challenging for coffee farmers.

That's why, through the *Nescafé Plan 2030*, we are implementing new ways to incentivize acceleration.

\$ Increase farmers' income

🏠 Create better social conditions

Learning new ways to support smallholders

Throughout the year, we continued to run our conditional cash incentive pilot programs designed to help accelerate the adoption of regenerative agricultural practices. Taking place in Indonesia, Côte d'Ivoire and Mexico, farmers received expert and targeted help from agronomists.

The programs have yielded promising early results, with positive feedback from the farmers participating in the three pilots. By implementing regenerative agricultural practices, farmers became more resilient to adverse weather conditions.



OUTLOOK

Early results from our three pilots in Indonesia, Côte d'Ivoire and Mexico showed significant farmer satisfaction, increased adoption of regenerative agricultural practices and the efficient distribution of incentives. This feedback encourages us to continue to engage with thousands more coffee farmers over the coming years. We are prioritizing smallholders in Indonesia, Côte d'Ivoire and Mexico, as well as extending the conditional cash incentive programs to farmer units in Honduras and Colombia.

In addition to the cash incentives, we also piloted a partnership with insurance technology company Blue Marble. In the event of extreme weather events, the company's product aims to mitigate farmers' losses in production costs.

Promoting farmer peer learnings

Nescafé established the digital learning platform *Agrinest* to enable farmers to connect and share their regenerative agricultural experiences. Participation is growing fast. With over 1,600 farmers using it in Vietnam, the platform helps farmers acquire skills from their peers through direct interactions. The platform has already attracted around 260 farmer users in Indonesia and is now also growing followers in the Philippines and Thailand. As well as instant connections, the site also acts as a repository of useful information and training materials.



OPTIMIZING FERTILIZATION

Fertilizers require careful application, particularly in terms of when and where they are used on farms. The right combination of organic and synthetic fertilizers can enhance farmer incomes, protect water and soils and avoid GHG emissions.

- 🌱 Reduce greenhouse gas emissions
- 💰 Increase farmers' income

The importance of fertilizers in coffee production

When applied correctly, fertilizers have many benefits for growing crops, increasing production and lifting farmer incomes. Adding key nutrients such as nitrogen, phosphate and potassium to the soil, either through synthetic or organic inputs, can support both soil health and coffee trees.

Over time, coffee cultivation without proper soil management can lead to the depletion of nutrients in soils, reducing production capacity. Effective farming means applying specific amounts and combinations of inputs to sustain and increase soils' nutrient potential.

Excessive fertilization, on the other hand, results in high nutrient losses and misused investments. It risks the pollution of local water resources and, in some extreme cases, can contribute to poor health outcomes for local communities.

Synthetic fertilizers are expensive and contribute significantly to the carbon footprint of coffee farming through their manufacturing process as well as in their use in the field. It is vital, therefore, to help farmers optimize how they use them.

How farmers optimize fertilizer application

Coffee farmers grow their arabica and robusta varieties in a wide range of local conditions. The environmental factors

include temperature, the availability of water, the soil type and its quality.

We encourage farmers in the *Nescafé Plan* to test the conditions of their soil. This includes assessing the natural presence of nutrients, organic matter content, and levels of acidity, which all affect productivity. For instance, pH levels impact a plant's ability to absorb nutrients from the soil. Low pH levels lead to lower yields, and can result in misapplied, costly fertilizers.

We also support coffee farmers to assess soil composition. The levels of clay, silt and sand determine a soil's capacity to retain nutrients. Our agronomists train many coffee farmers in how to apply the '4Rs' to their fertilizer plans: Right source, Right rate, Right time and Right place. This balance aims to reduce losses to surrounding ecosystems, avoid excessive costs and lower GHG emissions.

2023 insights from the field

• Brazil

We see synergies between different farming activities, including coffee farms making use of organic waste compost from nearby cattle and poultry farms, in optimized combinations with synthetic fertilizers.

• Côte d'Ivoire

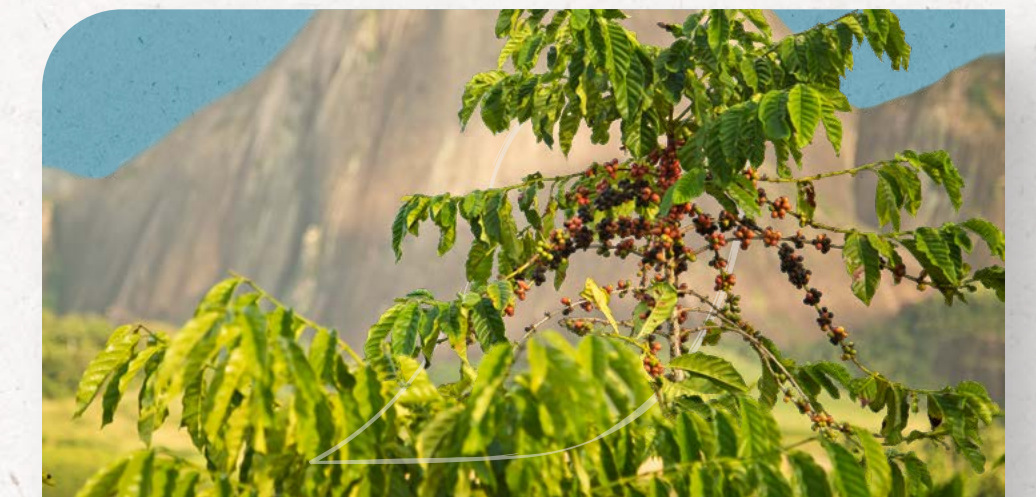
We are helping farmers use their own organic compost to enrich the soil content of their farms.

• Vietnam, China and India

In these growing regions, where fertilizer use is high, we are encouraging farmers to be more precise (see 4Rs) in the use of synthetic inputs, to protect water resources and save costs, while maintaining similar yields.

• Indonesia

Farmers are enriching the local compost with manure and urea from goats provided by the *Nescafé Plan*, which also leads to extra milk products for own consumption and/or diversified income.



OUTLOOK

The *Nescafé Plan* field programs will continue to focus on driving lower greenhouse gas emissions per kg of coffee and support the optimization of fertilization for better yields.

In origins like Brazil and Vietnam, where there is already widespread use of synthetic fertilizers, we will continue to work with farmers to advance more effective, timely and precise application of fertilizers, and the integration of organic composts and cover crops. In countries with historically low investments in soil fertility like Côte d'Ivoire and Mexico, we will support farmers to conduct soil assessments and implement sound and optimized fertilization approaches.

VIEWPOINT: SUSTAINABLE FOOD LAB

NESCAFÉ PLAN’S SUPPORT FOR REGENERATIVE AGRICULTURE AND LIVING INCOMES IN INDONESIA

“So far, the *Nescafé* pilot program’s success in Indonesia is largely due to a collaborative approach, where local expert teams and farmers are given real agency to make change happen.”



SETH PETCHERS
Senior Program Director,
Sustainable Food Lab



KEALY SLOAN
Program Director,
Sustainable Food Lab

Sustainable Food Lab is a US-based non-profit organization that has been advising *Nescafé* on the rural household income agenda since 2022. In 2023, a team traveled to Indonesia to visit and assess the impact of the *Nescafé Plan 2030* pilot program, known locally as RegenTa.



Creating the conditions for success in Lampung

In Indonesia, *Nescafé*’s work with smallholder robusta farmers began in the mid-1990s. The evolution of this relationship, along with *Nescafé*’s learning and the development of *Nescafé Plan 2030*’s priorities, played a crucial role in the design of a pilot program currently underway in Lampung, South Sumatra. Called ‘RegenTa’, which includes the sound ‘Ta’ from ‘Tangguh’ – the Bahasa word for resilient – the program seeks to accelerate smallholder adoption of regenerative agricultural practices.

In August 2023, Sustainable Food Lab’s team visited farmers at several RegenTa program sites in Lampung and conducted a living income learning workshop for the *Nescafé* local project team. In its analysis of RegenTa,

Sustainable Food Lab reviewed the foundational work on which the pilot is built, along with the pilot’s theory of change and program of activities developed to reach its targets. A link to the full report can be found [here](#).

RegenTa – designed for regenerative farming and greater resilience

The issues RegenTa addresses

After years of refining its engagement with coffee farmers in Lampung, the *Nescafé* team identified three key challenges to farming households’ ability to earn enough to support a decent standard of living:

- **Productivity:** A typical Lampung coffee farm yields just 800 kg/ha, significantly below the productivity (and income) potential of the land.

- **Economic resilience:** Households' diversification of both crops and other income opportunities is ad-hoc, and farmers do not typically calculate and track profitability and make strategic farm investments.
- **Weather:** Irregularities, particularly in timing and amount of rainfall, have drastically impacted productivity in recent years.

Pilot design

Farming households' ability to earn a living income depends on land size, volume of raw material produced, the cost of production of the raw material, the price at which the raw material is sold, and other income the household earns. RegenTa focuses on three of those drivers: volume, cost of production and income diversification. RegenTa was launched to test a range of activities with an initial group of

1,000 farmers. This work complements the support that *Nescafé* provides to 10,000 farmers who are already part of the *Nescafé Plan*, including technical assistance, 4C (Common Code for the Coffee Community) coffee certification and the GIZ Coffee++ program. With promising initial results, RegenTa has already expanded to include an additional 500 farmers, bringing the total to 1,500 farmers.

Core activities

Training and promotion of key regenerative agricultural practices

The adoption of regenerative agricultural practices is key to driving better productivity and income. Farmers receive training and ongoing support from *Nescafé* agronomists, as well as local implementation partner Karya Masyarakat Mandiri and youth coffee service groups. They also receive support from local coffee collectives called KUBS, who buy, process and sell coffee sourced from the *Nescafé Plan* farmers.



INCOME DIVERSIFICATION

Avocado intercropping and goat husbandry support RegenTa's goals, contributing to total household income and increasing farmers' resilience. These activities also support coffee productivity, providing shade, and adding compost to vegetation and goat manure.



INCORPORATION OF COMPOST FERTILIZERS

To improve water retention, increase fertility and to balance the pH of soils, farmers can use compost, generated organically from local waste streams, including their own farms.



REJUVENATION OF COFFEE TREE STOCK

To increase the productivity of coffee trees, farmers use grafting, where a healthy budding branch is attached from one healthy tree to the trunk of a less productive one, improving its output.



SOIL ANALYSIS AND CORRECTION

RegenTa supports farmers to assess their soils and also distributes dolomite to increase magnesium and calcium in the soil for plant growth and to balance its pH.





90%

of RegenTa farmers
qualified for cash
incentives based on the
regenerative scorecard

40%

of RegenTa farmers
qualified for cash
incentives based on
rejuvenation target
(25% of coffee trees)

80%

of RegenTa farmers
who received incentives
indicated that they
reinvested funds
into their farms

88%

of RegenTa farmers
who reinvested funds
into their farms
specified that the
reinvestment helped to
rejuvenate their farms
and increase yields

The program's activities include:

- **Demonstration plots:** Supplementing the *Nescafé* education farm, these demonstration plots provide other farmers with an opportunity to see how target practices are implemented.
- **Youth coffee service groups:** *Nescafé* is supporting young farmers to develop and sell advisory services and labor to older farmers with less capacity for practices like pruning and weeding.
- **Farmer Business School:** Through the *Nescafé* partnership with GIZ's Coffee++ program, farmers participate in a five-day intensive course designed to help them run their farms as businesses.
- **Weather insurance:** A partnership with insurance technology company Blue Marble aims to protect a portion of farmers' cost of production following abnormal weather patterns.

Financial incentives

Nescafé awards incentive payments to farmers who succeed in rejuvenating their coffee trees on 25% of their farms continuously for four years. The payments recognize every rejuvenated hectare until the pruned or grafted trees are back to full productivity. *Nescafé* also rewards farmers by the kg of coffee they deliver to the *Nescafé* supplier partners when farmers achieve a specific score on a regenerative agriculture scorecard.

Charting income progression and benchmarking against living income

In Lampung, *Nescafé* collects data and assesses household income on an annual basis, partnering with the Rainforest Alliance for impact assessment, and Sustainable Food Lab for additional advisory support. Household income assessments include components such as factoring in the coffee yield and production efficiency of the farms in the *Nescafé* supply chain. Over time, this information will paint a picture of the typical household's net income, which *Nescafé* will compare against a living income benchmark independently derived by the Anker Research Institute. This will provide insight into whether program activities are helping farming families make significant headway toward earning a living income.

Support and infrastructure

The *Nescafé* team

The *Nescafé* local team in Lampung includes agro-nomists and project managers, stationed in the field among farming communities and our suppliers.

External partnerships

- Karya Masyarakat Mandiri (KMM) – A local implementation partner, KMM adds capacity to the *Nescafé* team by mentoring youth service groups, and providing counsel to farmer group meetings and individual farms.
- GIZ – As a *Nescafé* strategic partner for the Coffee++ program, GIZ executes the Farmer Business School program and developed the farm diversification models that guide income diversification strategy.
- Rainforest Alliance – The long-standing *Nescafé* impact assessment partner conducts annual farmer surveys and tracks adoption of practices and household income data. *Nescafé*, together with Sustainable Food Lab, compares the data to the local living income benchmark.

Enablers in the *Nescafé* supply chain

On-the-ground expertise is key to the success of the project.

- Local engagement – The presence of teams and infrastructure in sourcing regions are vital assets to RegenTa.
- Supply chain structure – KUBs have become integral to engaging and training farmers on 4C certification practices and regenerative agriculture.
- Buying commitment – *Nescafé* incentivizes participating farmers by buying coffee from them on an annual basis.

Progress to Date

It is still premature to measure the full impact on productivity, income, and greenhouse gas emissions reductions of the RegenTa pilot. The early results, though, are very promising. *Nescafé* has managed to establish the program’s infrastructure and is delivering measurable benefits for farmers. The project team has also demonstrated its ability to learn and adapt approaches, which will be crucial as the program reaches more farmers in different contexts.

Baseline data collection and analysis: Regenerative practices, carbon footprint and living income

The Rainforest Alliance, partner to *Nescafé* for impact assessments, conducted baseline surveys as part of the yearly monitoring and evaluation (M&E) campaigns. In late 2022, project partner the Rainforest Alliance conducted baseline surveys on a sample of the initial pilot farmers. A year later, a second round of data was gathered for analysis of year-one implementation.

The baseline data suggests that targeting farmers’ costs, which are already relatively low, should not be a key focus for the program. With under-fertilization typical on farms, the data indicates that *Nescafé* should promote compost production and application to boost productivity and increase household incomes. At the same time, modeling showed that the promotion of diversified income generation will also be crucial in the progress towards a living income.

Program roll-out, learning, and adaptation

Despite some challenges, the RegenTa activity implementation has been effective. As of November 2023, 1,518 farmers were enrolled in the program. Since initial enrollment in April of 2022, 500 new farmers have joined the program, with the team fielding a steady flow of requests from additional farmers to join. Some program highlights to date include:

>80%

of RegenTa farmers trained “agreed” that they gained knowledge in climate change risks and skills to address and mitigate them

>90%

of RegenTa farmers trained indicated that they were able to apply the knowledge and skills acquired

680

farmers attended financial management training

520

farmers received support for avocado intercropping

50

farmers received support to begin goat husbandry

860

farmers signed up for weather insurance coverage

3,500

cumulative attendees at farmer workshops

900

farmers received incentive pay-outs

400

farmers received youth group coffee services

Early learning and adaptation

RegenTa initially promoted pinto peanut (*Arachis pintoi*) as a cover crop to control weeds. But the local team received feedback from farmers that pinto peanut held no financial or consumption value, and that it created a hazard by harboring snakes. The team needed to pivot quickly. *Nescafé* provided the farmers with a valuable and flexible alternative cover crop, pumpkin. Perhaps not as effective for weed control as pinto peanut, pumpkin provides sufficient soil protection and a fair balance between regenerative agricultural needs and farmers' safety. To incentivize better practices such as renovating and rejuvenating coffee

plants, RegenTa rewards farmers with financial incentives. These were initially distributed via bank accounts but with low, regular use of these facilities, the funds often remained unclaimed.' During 2023, the farmers received the incentives via their local post offices, which resulted in a much higher take-up rate.

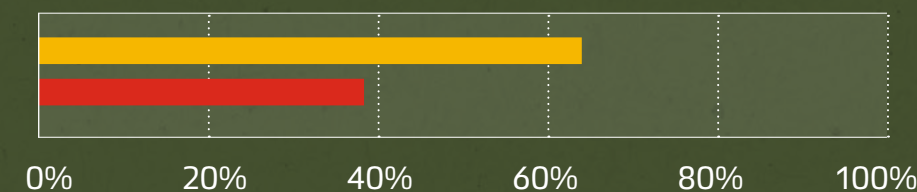
Initial results

Having recently received and analyzed the first set of farm household data since the program began, *Nescafé* has an early sense of how accurately initial income models reflect reality, particularly in terms of productivity and income.

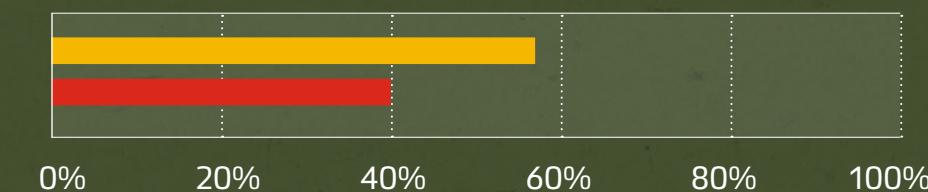
Next steps

The team will be closely monitoring farmers' rates of practice adoption. This will help to fine-tune programs and potentially scale RegenTa to include all 10,000 farmers in the Lampung farmer units supplying *Nescafé*. The early learnings from RegenTa will also be incorporated into other pilot programs. In turn, learning from the Côte d'Ivoire and Mexico programs, now also underway, will help cross-pollinate programs in Honduras and Colombia, to begin in 2024. The goals of reducing greenhouse gas emissions and supporting farmers to achieve a living income are consistent in all of the programs. The path to achieving them at scale by 2023 will, as early success in Indonesia demonstrates, be charted by the teams and partners who know their regions best.

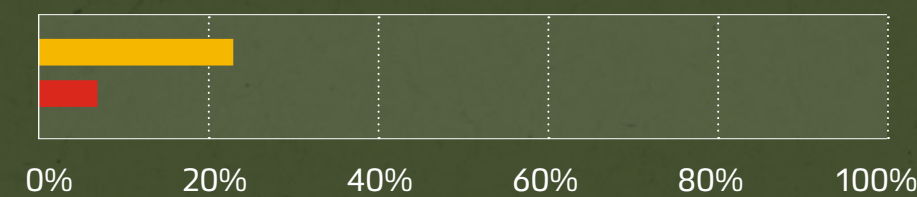
PERCENTAGE OF COFFEE LAND THAT RECEIVED ORGANIC FERTILIZER



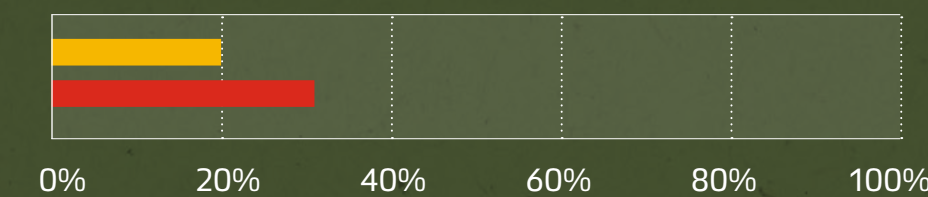
PERCENTAGE OF FARMERS WITH AT LEAST 75% OF COFFEE LAND COVERED DURING THE WHOLE YEAR



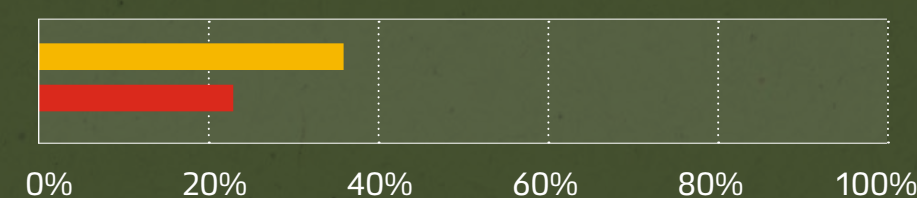
PERCENTAGE OF FARMERS CONDUCTING REGULAR SOIL ANALYSIS



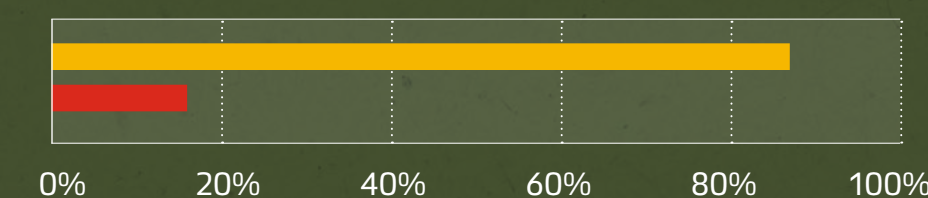
PERCENTAGE REDUCTION IN NET CASH COFFEE INCOME BETWEEN 2022 AND 2023, DUE TO ADVERSE WEATHER



PERCENTAGE OF FARMERS WHO USE SOIL ANALYSIS TO INFORM FERTILIZER PLAN



RATIO OF REVENUE FROM COFFEE SOLD TO COST OF PRODUCTION



■ Nescafé Plan RegenTa Farmers
■ Nescafé Plan Farmers



ACTING TOGETHER

MAKING EXPERT GUIDANCE AVAILABLE TO ALL

Knowledge is key in the transition to regenerative coffee farming. *Nescafé* partnered with the Alliance for Bioversity and the International Center for Tropical Agriculture (CIAT) to help consolidate the key regenerative agricultural principles and techniques to transform coffee farming around the world.



Compiling knowledge to share

Regenerative agriculture can bring benefits to the whole coffee sector. Although many practices like agroforestry have been in place for a long time, their full impact on regenerating soil health, biodiversity and water have not yet been fully appreciated.

To help understand regenerative agriculture and its meaning, and to promote the coffee industry's application of these techniques, we sought the support of CIAT. Based in Colombia, this organization aims to deliver research-based solutions that harness agricultural biodiversity and sustainably transform food systems to improve people's lives.

Regenerative agriculture
for low-carbon and
resilient coffee farms
A PRACTICAL GUIDEBOOK



Version 1.0 | July 2023



Together with *Nescafé*, we developed 'Regenerative Agriculture for Low-Carbon and Resilient Coffee Farms, a Practical Guidebook'. Published in 2023, the guide is designed to help agronomists and technicians improve their fieldwork with coffee farmers. It tackles the main principles of regenerative farming and the positive impacts that the toolbox of practices can have on farmers, the environment and their communities. From the renovation of coffee trees and agroforestry to optimal and efficient fertilizer and water use, the expert writers describe regenerative agricultural techniques and their potential positive impacts on reducing greenhouse gas emissions, increasing yields and raising farmer incomes.

The guidebook has a global perspective but adaptation to local contexts requires knowledge of local agronomists, technicians and farmers.

ENGLISH VERSION
[HERE](#)

SPANISH VERSION
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Regenerative agriculture for low-carbon and resilient coffee farms A PRACTICAL GUIDEBOOK

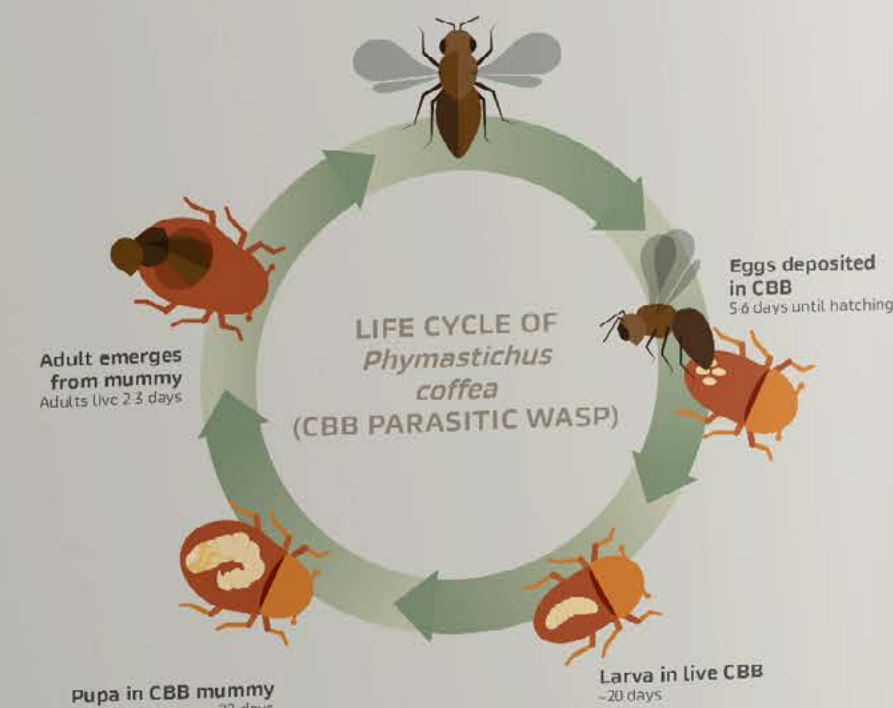


Figure 3.16. The life cycle (egg to adult) of *Phymastichus coffea*.

P. coffea is an effective parasitic wasp of CBB (*Hypothenemus hampei* (Ferrari)) at a mean temperature of 23.2°C. The larvae feed on adult coffee berry borers, causing borer death before it can penetrate the coffee berry and lay eggs thus preventing damage to berries. Based on Espinoza et al. [10].

Because CBB spends most of its life cycle inside the coffee bean, the efficacy of corrective control is limited. Therefore, farmers should consider long-term preventive control based on systemic measures. Large, continuous areas under coffee cultivation facilitate the spread of CBB. Forest patches between coffee fields are especially effective at preventing CBB dispersal. Natural enemies of CBB include parasitoids, such as *Cephalonomia stephanoderis*, *Prorops nasuta* and *Phymastichus coffea* (Figure 3.16); different species of predatory ants; and entomopathogenic nematodes, among others. Conservation practices that promote biodiversity and improve microclimatic conditions (such as the use of shade trees, intercropping and natural vegetation around field borders) can enhance the potential for control by natural enemies in their native range. Different African species of parasitoids have been introduced to Latin America. The establishment and level of CBB control achieved with these exotic parasitoids has been variable, depending on local agroecological conditions.

Sources: Ndiye et al. [10], Aristizabal et al. [11], Armbricht and Gallardo [12], Gubry et al. [13], Lemma and Abewoy [14], Espinoza et al. [15], Escobar-Ramirez et al. [16].

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What challenges does adoption of the practice pose, and how can these be overcome?

The main challenge in promoting adoption of IPM is that it requires a deep understanding of both pest and disease ecology as well as their natural biocontrol agents. Fortunately, only a limited number of pests and diseases significantly affect coffee yields in particular regions. Moreover, these organisms have been the subject of much scientific research, as is the case with CBB and CLR. It is crucial for farmers and agricultural advisors to receive technical training either through local research organizations or public institutions.

In addition, limited access to labor may limit the implementation of cultural control methods as well as routine monitoring. For example, while alcohol-baited traps are effective for monitoring, they may capture large numbers of native non-target insects. Sorting and identifying specimens may thus prove tedious.

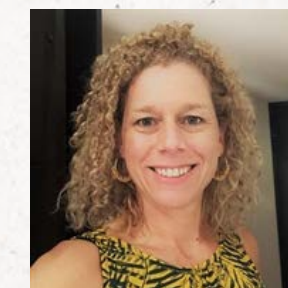
Finally, IPM does not offer one-size-fits-all solutions. Biological control is a long-term strategy that relies on adequate production system design, and its benefits take time to materialize. In managing field conditions to inhibit pest and disease reproduction, it is often necessary to strike a delicate balance, as with shade levels, and this may entail trade-offs, since methods used to control one pest or disease might create a beneficial habitat for another. Ecological balance can be especially difficult to maintain in highly disturbed or altered environments, where the success of biological control partly depends on landscape dynamics, which are beyond the control of individual producers.



105 Coffee berry borer, Colombia | CIAT/N. Palmer.

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“When we answered the request for a proposal from *Nescafé* in 2022, we knew that there were lots of individual scientific papers on topics such as agroforestry in coffee. With their ambitious targets on sourcing from farmers transitioning to regenerative agricultural practices, it made sense to bring all of this knowledge together in one place, so that people have a credible, single reference point to draw from. Hopefully, this book will help the company reach its 2030 targets, and also positively influence the wider industry.”



MIRJAM PULLEMAN

CIAT scientist and co-author of 'Regenerative Agriculture for Low-Carbon and Resilient Coffee Farms, a Practical Guidebook'



GLOSSARY

4Rs fertilization

The optimizing principles of Right source, Right rate, Right time, and Right place to avoid waste, minimize costs and environmental impacts.

Agroforestry

The intentional integration of trees and shrubs into farming systems to increase soil health and biodiversity.

Agronomist

An agricultural expert in various aspects of plant biology, soil science, and environmental management to enhance the efficiency and effectiveness of farming operations.

Compost

Decayed (decomposed/rotten) organic material used as a plant fertilizer.

Cover crop

A crop grown to cover the soil for its protection and enrichment.

Farmer unit

A group of identified farmers, organized and managed by a specific entity. This is the starting point for traceability of green coffee lots.

Grafting

A technique whereby tissues of different plants are joined to continue their growth together.

Husbandry

The care, management, and production of plants or animals that are raised for various purposes.

Inputs

The resources that are used for farm production (e.g. fertilizers, equipment, energy).

Intercropping

To grow two or more crops simultaneously on the same plot.

Living income

The net annual income required for a household in a specific location to afford a decent standard of living for all its members.

Monocropping

The practice of growing a single crop.

Mulching

Organic matter that protects the soil, the roots of plants and soil life from heat, cold, or evaporation, preventing soil loss, suppressing weeds and enriching the soil.

Organic fertilizer

Naturally produced fertilizers, mainly derived from plant matter, animal manure and food waste, that can be added to soil or plants, providing nutrients and sustaining growth.

Regenerative agriculture

A holistic production system that aims, through practice adoption, to conserve and restore farmland and its ecosystem (biodiversity, water), to improve soil health and soil fertility while benefitting the farmer and communities.

Renovation

Removing old coffee trees and replacing them with new coffee plantlets.

Responsibly Sourced

Coffee lots that are traceable to the farmer unit where the coffee was grown, and are independently certified or verified as produced in accordance with external sustainability standards validated, as equivalent to our Nestlé Responsible Sourcing Core Requirements. Our Reporting Scope and Methodology for ESG Key Performance Indicators document provides details and definitions and can be found [here](#).

Riparian buffer

A vegetated area (combination of trees and shrubs) near a stream, lake, or wetland which helps to protect from the impact of adjacent land uses.

Smallholder

A farmer who cultivates a small-sized farm, compared to the average farm size of the country.

Synthetic/mineral fertilizer

A chemically manufactured product, typically from the petroleum industry, containing specific concentrations of essential nutrients for plant growth and development.

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