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SUSTAINABLE COFFEE CHALLENGE

COFFEE RESILIENCE

BUILDING A SHARED FOUNDATION FOR COLLABORATIVE PLACE-BASED INVESTMENT

CONSERVATION INTERNATIONAL

Treevaluation
Growth that counts

idh
transforming markets

COFFEE RESILIENCE

Building a Shared Foundation for Collaborative Place-Based Investment

The next phase of coffee sustainability is not only about reducing negative impacts. It is about ensuring that coffee-producing regions retain the ecological, economic and social conditions needed to keep producing coffee in a changing climate. Within this context, resilience is emerging as a central organizing principle.

EXECUTIVE SUMMARY

Coffee-producing regions are facing converging climate, environmental, market, and supply-chain pressures that are testing the long-term viability of production systems, farming livelihoods, ecosystems, and sourcing strategies. While sustainability investments have generated important progress, emerging risks and rising expectations from investors, regulators, and customers point to the need for a more coordinated approach to resilience across coffee landscapes.

Growing alignment across the coffee industry suggests that resilience could serve as a central organizing principle for the next generation of coffee sustainability efforts. Yet without a shared foundation and common approach, stakeholders risk pursuing fragmented efforts that fall short of addressing these systemic challenges.

Produced by Conservation International, IDH, and Treevaluation and informed by industry dialogue convened through the Sustainable Coffee Challenge, this paper establishes a shared foundation for coffee resilience. It focuses primarily on climate- and nature-related risks and their implications for productivity, livelihoods, and ecosystem function, while recognizing that market, social, and policy dynamics also shape resilience through their effects on local conditions, priorities, and investment decisions.

This paper outlines five positions supported by a common definition, vision, and framework intended to guide coordinated action and investment across coffee landscapes:

1. **Resilience is a system outcome.**
2. **Resilience requires strengthening absorptive, adaptive and transformative capacities of farms, farming households and landscapes.**
3. **Resilience investments should build toward a shared vision for coffee, people, and ecosystems.**
4. **Shared frameworks are needed to guide risk assessment, investment and measurement.**
5. **Collective action is key to unlocking resilience at scale**

These positions establish a common foundation for how the coffee sector can understand resilience. The sections that follow explore each position in greater detail, moving from the business case for collaboration and a shared definition of resilience coupled to a practical framework for prioritization, and ultimately to the implications for investment and collective action across coffee landscapes. Future publications will build on this shared foundation to dive deeper into assessing, measuring and financing resilience.

A COLLABORATIVE FOUNDATION

In April and May 2026, the Sustainable Coffee Challenge convened a targeted Industry Catalyst Group bringing together 34 stakeholders from across the coffee sector. Led by Conservation International and IDH, with technical support from Treevaluation, the group worked through a four-week process to identify shared challenges, test emerging concepts and explore where greater alignment could add value. Initial outputs were then discussed at the SCC All-Partner Workshop in Brussels in June 2026.

This paper synthesizes the areas of strongest alignment from that process and translates them into a CI and IDH position.The collaboration informed the positions; it is not presented as a formal consensus statement or as an endorsement by participating organizations.



CONTEXT

The Business Case for Resilience

Coffee production – like any agricultural crop – has always been exposed to a multitude of risks. However, across producing regions, rising temperatures, changing rainfall patterns, increasing pest and disease pressure, ecosystem degradation, volatile input and market prices are converging to affecting productivity and increasing uncertainty. At the same time, millions of smallholder farmers operate with persistent social challenges and economic volatility that result in limited capacity to absorb shocks and invest in long-term adaptation.

These multiple pressures are converging in ways that create systemic challenges impacting the long-term viability of production systems, farming livelihoods, and supply chains. Resilience is therefore becoming not only a sustainability objective, but a business imperative.



Climate volatility

+



Farmer vulnerability

+



Landscape degradation

+

- Rising temperatures and erratic rainfall is reducing yields, increasing variability, and driving pest/disease pressure
- Production shocks are already translating into price volatility and supply instability

Supply is becoming less predictable

- Supply depends on millions of smallholders with limited capacity to absorb shocks
- Many resilience investments are capital-intensive and slow to generate returns

Limited adaptive capacity constrains investment and response at scale

- Productivity is underpinned by ecosystem services: water regulation, pollination, soil health, microclimate
- Landscape degradation directly undermines farm-level performance

Ecosystem degradation weakens long-term productivity

For coffee companies, resilience is increasingly linked to the continuity, diversity and optionality of supply. Deteriorating resilience can translate into volume and quality volatility, higher costs, greater exposure to origin concentration, and reduced ability to meet due-diligence and sustainability commitments. The business case for resilience therefore lies both in protecting individual producing regions and in strengthening the depth and flexibility of the wider sourcing base.

Additionally, the business case – and urgency to act – is reinforced by increasing regulatory and stakeholder expectations that require stronger supply chain traceability and due diligence as well as credible evidence that investments deliver rigorous outcomes.

POSITION 1:

Resilience is a system outcome.

The factors that determine long-term coffee supply extend beyond farm boundaries. While farm management remains essential, coffee resilience is shaped by the broader systems that support production, including farming households, ecosystem services, local institutions, and landscape conditions.

Resilience cannot be attributed to a single project, practice package or company intervention. Individual investments can contribute to resilience, but resilience itself is a wider system condition that emerges when productive, ecological, social and institutional systems work together.

Definition

Coffee resilience is the ability of coffee farms, farming households and landscapes to withstand and recover from shocks, adapt to changing conditions, and transform when existing systems are no longer sufficient, while maintaining or improving the functions needed for coffee, people and ecosystems to thrive.

While many global factors influence coffee production, resilience is ultimately assessed and strengthened within specific coffee-producing landscapes. This paper focuses primarily on climate and nature related risks and their implications for productivity, livelihoods, and ecosystem function. Broader market, social, and policy dynamics remain important and are reflected throughout the framework, but their resilience implications are best understood through their effects on local conditions, priorities, and investment decisions.

Resilience for whom? (Scope)
Resilience operates across interconnected levels of the coffee system:

- **Farm:** The production system and biophysical conditions that support coffee cultivation.
- **Farming households:** The livelihoods, knowledge, assets, and decision-making capacities of producers.
- **Landscape:** The broader local ecological, governance, industry, and institutional systems that influence coffee production.

Resilience through what? (Approach)
Coffee systems face both acute shocks and long-term stressors. Building resilience requires strengthening the capacity to absorb disruption, adapt to changing conditions, and transform when existing systems are no longer sufficient.

→ STRESSORS

Slow-onset or chronic pressures that gradually undermine systems (e.g., warming, soil degradation)

Resilience to what end? (Outcome)
Resilience is fundamentally linked to maintaining and strengthening essential functions for long-term coffee production. Productive farms, viable farming businesses, healthy ecosystems, and effective governance systems all contribute to a viable, investable, and sustainable future for coffee.

SHOCKS
Sudden acute hazard events that disrupt systems (e.g., floods, storms, extreme heat spikes).

Together, these three dimensions provide a practical way to understand coffee resilience. Resilience is defined not only by the challenges a system faces, but also by the actors involved, the capacities required to respond, and the long-term outcomes that those responses seek to protect and sustain. These relationships are illustrated below.

Scope
Improving **farm**, **farming household** and **landscape** resilience is key to securing the long-term future of coffee and farmers who produce it.

Approach
Building key capacities that **absorb** and **adapt** to the effects of emerging shocks and hazards and **transform** to withstand evolving long-term stressors.

Outcome
Ensuring **preservation**, **restoration**, **or improvement** of essential functions that help coffee, farming households and ecosystems thrive.


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POSITION 2:

Resilience requires strengthening absorptive, adaptive and transformative capacities across each level of the coffee system.

Resilience is not a static condition. Coffee systems face sudden shocks and long-term stressors that require different responses over time. Sudden shocks may include droughts, floods, pest outbreaks, conflict, trade or logistics disruption, and abrupt shortages or price spikes in critical inputs such as fertilizer and energy. Long-term stressors include rising temperatures, ecosystem degradation, chronic low farm profitability, labor constraints and persistent market instability. These risks can interact and produce different outcomes depending on exposure, vulnerability and resilience capacities.

Building resilience therefore requires more than helping systems recover from disruption. It requires strengthening the capacities needed to withstand shocks, adjust to changing conditions, and, when necessary, fundamentally reshape systems so they remain viable in the future.

Across each level, responding effectively requires **three complementary capacities:**

- **Absorptive:** The ability to withstand shocks while maintaining core functions.
- **Adaptive:** The ability to make incremental adjustments in response to changing conditions.
- **Transformative:** The ability to fundamentally reorganize when existing systems are no longer sufficient.

These capacities help determine how effectively a coffee system responds to risk. However, the resilience of any system is also influenced by the degree to which farms, farming households, and landscapes are exposed and vulnerable to those risks. Two regions may face similar climate hazards yet experience very different outcomes depending on their *exposure*, *vulnerability*, and ability to absorb, adapt, and transform in response to change.

Understanding these differences is a critical component of risk assessment and planning for resilience, and will be explored in future publications in this series.

→ EXPOSURE

The extent to which assets, people, and ecosystems are located in risk prone areas.

→ VULNERABILITY

The tendency to be adversely affected due to sensitivity and limited capacity to cope or adapt.

Coffee Resilience Matrix

While resilience can be defined conceptually, translating it into action requires understanding where resilience is built. The **Coffee Resilience Matrix** organizes resilience across the three levels of the coffee system and the three forms of resilience capacity

The Coffee Resilience Matrix is not intended to prescribe a single pathway to resilience. Rather, it serves as a bridge between risk assessment and effective action by providing a common framework to categorize resilience considerations holistically and consistently when planning, implementing and assessing place-based investments.

The framework helps stakeholders:

- Lay the foundation for identifying investments, trade-offs, optimizing time sequence
- Identify gaps in improved capacities and keep focused on strategies which maintain balance in the system
- Helps track resilience building across the three basic capacities and key layers

Organized as a practical 3x3 matrix, it combines three **levels of action** (farm, farming household, landscape) with three forms of **resilience capacity** (absorb, adapt, transform). Each cell represents a critical **domain** of resilience that can be assessed and strengthened within a specific landscape.

		LEVELS OF ACTION		
		FARM	**FARMING HOUSEHOLD**	**LANDSCAPE**
RESILIENCE CAPACITIES	**ABSORB** *(withstand shocks)*	Biophysical buffers	Livelihood buffers	Ecological integrity
	ADAPT *(adjust incrementally)*	Agronomic flexibility	Knowledge & Agency	Governance & Markets
	TRANSFORM *(fundamentally reorganize)*	System redesign	Livelihood switching	Sector transformation

To support the practical application of the matrix, the **resilience domains** are described in greater detail below. Together they represent the key assets, conditions, capabilities and processes that underpin resilience across the coffee system.

ABSORB	Examples
• ***Biophysical buffers:*** Natural and ecological features that reduce the impacts of climate and environmental shocks.	*Shade for temperature regulation, soil cover for water retention and erosion control*
• ***Livelihood buffers:*** Financial, social, and productive assets that help households cope with shocks without major losses.	*Crop insurance, home gardens, cost reductions and savings*
• ***Ecological integrity:*** *Healthy and connected ecosystems that maintain essential functions and reduce landscape vulnerability.*	*Protection of ecosystems services and buffering capacity through watershed protection, riparian restoration, forest conservation, habitat connectivity corridors*

ADAPT	Examples
• ***Agronomic flexibility:*** The capacity to modify crop management practices to maintain productivity and viability under changing conditions.	*Climate resilient varietals, IPM, improved shade management and crop diversification, soil fertility management, water management*
• ***Knowledge & agency:*** Access to high-quality adaptation options and the information, skills, and decision-making power that enables proactive responses to change.	*Access to technical assistance, credit and high-quality inputs, financial literacy training, producer leadership development*
• ***Governance & markets:*** Institutions, coordination mechanisms and market incentives that support collective action, adaptation and learning.	*Landscape governance platforms, shared risk assessment and planning, cooperative strengthening, market incentives for performance*

TRANSFORM	Examples
• ***System redesign:*** The reconfiguration of production systems to remain viable under fundamentally different future conditions.	*Transition to diversified agroforestry systems, alternative processing practices, relocation of coffee to more suitable areas*
• ***Livelihood switching:*** Transitioning to new income sources when existing livelihoods become unviable or excessively risky.	*Transition away from coffee as a primary income source, development of new value chains, commercialization of coffee by-products, off farm businesses*
• ***Sector transformation:*** Structural changes in institutions, finance, policies, incentives, and market systems that reshape the landscape or sector.	*Policy reform, new financial products, pre-competitive investment platforms to upscale governance platforms*



POSITION 03:

Resilience investments should build toward a shared vision for coffee, people, and ecosystems.

While specific risks, capacity needs, and investment priorities will vary across landscapes, place-based investments should be oriented around a shared vision — a target state — for resilient coffee systems. This vision defines the future conditions that resilience investments should ultimately help create, as well as the common outcomes that can signal progress.

The shared vision builds on the Coffee Resilience Matrix. If the Matrix helps identify the types of action needed across farms, farming households, and landscapes, the vision clarifies what those actions are ultimately working toward: resilient coffee production, strong farming communities, and thriving ecosystems that support them.

Target State

The transition to resilient coffee systems is characterized by productive, commercially viable and low-impact coffee production, farming households with reduced vulnerability, thriving ecosystems, and effective local governance and market systems that sustain essential functions over time.

This vision establishes four interconnected outcome areas that should serve as the long-term objectives of resilience investments across coffee producing regions:

1. **Productive, commercially viable and low-impact coffee production –** Coffee farms maintain viable production and quality under changing conditions while reducing carbon intensity, lower deforestation and land degradation pressure, and strengthening their capacity to withstand climate, biological, economic and input-related shocks.
2. **Reduced vulnerability of farming households –** Farming households have sufficient and predictable returns, liquidity, access to affordable finance and critical inputs, capabilities, agency and livelihood options to manage risks and invest in adaptation over time, supported by appropriate risk-sharing across the supply chain.
3. **Thriving ecosystems –** Coffee landscapes continue to provide the ecosystem functions that underpin long term productivity, including water regulation, pollination, soil health, microclimate regulation and pest control services that coffee production depends on.
4. **Effective local governance and market systems –** Stakeholders are able to align investments around resilience priorities, share risk and continuously strengthen resilience capacities and outcomes over time.


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These outcomes are mutually reinforcing and together they define the desired future state of resilient coffee systems. Productive coffee systems depend on resilient farming households and healthy ecosystems. Thriving ecosystems support both farm productivity and climate adaptation. Effective governance enables stakeholders to coordinate investments, respond to emerging risks, and sustain progress over time. Resilience investments should therefore be evaluated not only by the activities they support, but by their contribution to these broader system outcomes.

POSITION 04:

Shared frameworks are needed to guide risk assessment, investment and measurement.

Translating the resilience concepts outlined above into action requires a common approach for assessing risk, identifying resilience gaps, prioritizing investments, and measuring progress over time. Yet such a framework has largely been absent from the coffee sector.

Through the Sustainable Coffee Challenge process, stakeholders consistently emphasized that resilience requires more than a shared definition. It also requires practical approaches for assessing risk, identifying investment opportunities, measuring outcomes, and coordinating finance. Without a shared framework, stakeholders may use different definitions, methodologies, and metrics, making it difficult to compare risks, align investments, and evaluate outcomes across landscapes.

Stakeholders consistently pointed to several needs:

- Better visibility into where climate and nature-related risks are greatest, how those risks interact and which parts of the production system are most vulnerable.
- A clearer basis for deciding the combination of no-regret interventions to prioritize for investment.
- Moving beyond investment in isolated activities to demonstrate whether investments strengthen the capacities and functions that allow coffee systems to remain viable over time.
- Greater consistency across definitions, methodologies and metrics so investments can be compared, combined and communicated credibly.
- A shared approach to contribution, attribution, additionality and claims, enabling companies and investors to communicate their role credibly without attributing system-level resilience to a single intervention.
- Practical approaches for coordinated, pre-competitive investment in shared landscape conditions, including water, ecosystem health, services and local governance.
- A framework rigorous enough to guide decisions but flexible enough to reflect the distinct risks, institutions and production realities of each coffee landscape.

A common resilience framework does not imply that all coffee landscapes should use the same interventions or follow the same pathway. Risks, vulnerabilities, and investment priorities will continue to vary by geography and context. What should be consistent is the underlying approach. A shared framework creates a common language for assessing risk, understanding resilience capacity, prioritizing investment, and measuring progress. It allows diverse actors to pursue locally relevant solutions while working toward a common vision for resilient coffee systems.

This paper intentionally focuses on the foundational components of the framework: defining resilience, identifying the capacities that underpin resilience, and articulating the outcomes that resilience investments should deliver. Future publications will examine additional components needed to operationalize resilience at landscape scale, including risk assessment, prioritization methodologies, measurement systems, and financing mechanisms.



POSITION 05:

Collective action is key to unlocking resilience at scale.

Building resilience at scale requires multiple actors to align around shared priorities, coordinate investments, and collectively address the risks that no single organization can solve alone. A pre-condition before establishing a shared foundation is the recognition that resilience is ultimately realized through collaborative action.
Importantly, many of the drivers of resilience extend beyond any individual farm, company, or project. Water resources, ecosystem functions, producer services, infrastructure, financing mechanisms, and local governance systems are shared assets that influence entire coffee-producing landscapes.
When stakeholders align around a common understanding of resilience, the capacities it requires, the necessary levels of action and a shared vision for success, they create opportunities to achieve more than any individual actor could accomplish independently. Collective action helps:

- Direct investment toward the most critical resilience challenges within a landscape.
- Mobilize complementary public, private, and philanthropic capital around shared priorities.
- Strengthen landscape-level systems and services that underpin long-term resilience.
- Improve the comparability and credibility of resilience outcomes.
- Reduce fragmentation and duplication across initiatives operating in the same regions.
- Accelerate learning by creating a common basis for measuring and understanding what works.

Collective action does not require all organizations to pursue the same strategies, geographies, or investment approaches. What collective action requires is sufficient alignment around shared outcomes, common frameworks, and complementary roles. By building from a common foundation, stakeholders can pursue locally appropriate solutions while contributing to a broader transition toward resilient coffee production systems.

Beyond developing a conceptual framework, CI and IDH – with an open invitation to peer organizations – aim to actively adopt these concepts in current program development, particularly through the CI-led GCF AROMA program and the IDH-led Resilient Coffee Program (RCP) as well as through the Hylea Pact jointly led by IDH and CI in Huila, Colombia. This will not only encourage increased alignment in programing but also streamline and accelerate industry co-investment across a portfolio of key coffee landscapes.

LOOKING AHEAD

Leveraging the expertise and corporate perspective of the Sustainable Coffee Challenge community, Conservation International and IDH have worked to establish a shared foundation for coffee resilience. This paper proposes a common definition of resilience, a framework for understanding resilience capacities, and a shared vision for the outcomes that resilience investments should seek to deliver.

Establishing that foundation is only the first step. Translating resilience into action requires practical approaches that help stakeholders consistently assess risk, prioritize investments, measure outcomes, and mobilize finance.

Future publications in the Coffee Resilience Series will build on this foundation by exploring three critical questions:

- How can risks be assessed and used to prioritize resilience investments and actions?
- How should resilience outcomes and capacities be measured over time?
- What mechanisms and instruments can mobilize and coordinate financing for resilience at landscape scale?

Collectively, these elements form a broader resilience blueprint that can help stakeholders move from a shared understanding of resilience to more coordinated action and investment. By aligning around common outcomes while enabling locally relevant solutions, the coffee sector can strengthen the long-term viability of coffee-producing landscapes and the communities that depend on them.

For questions and/or more information, please reach out to the Sustainable Coffee Challenge via scc@conservation.org

