PUR

THE IMPORTANCE OF AGROFORESTRY IN THE TRANSITION TO REGENERATIVE COFFEE

MAY 2023

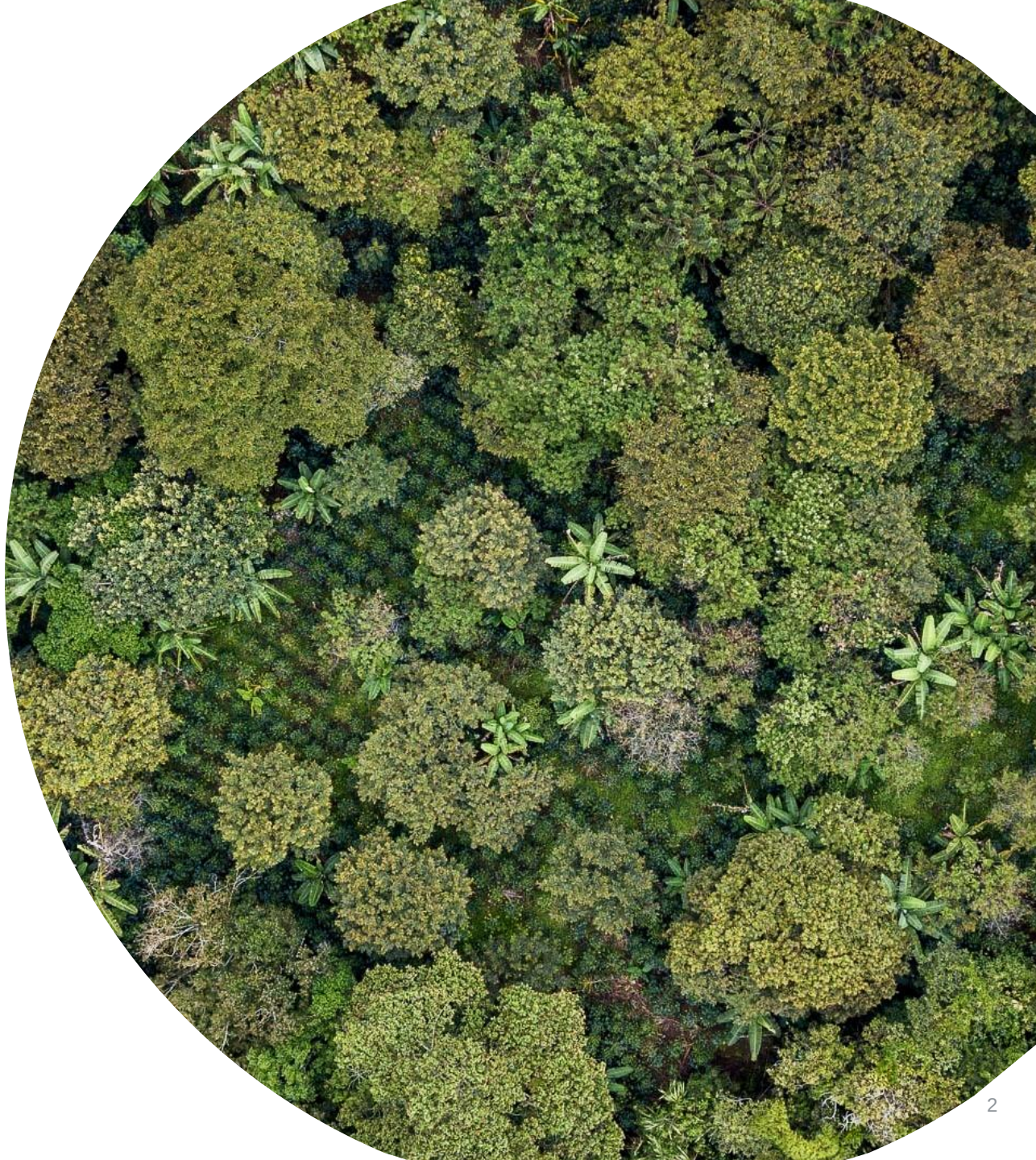
ONE WITH NATURE

Driving change be developing unique **INSETTING** projects within our partners' agricultural landscape & communities.

RESTORE
ECOSYSTEMS

EMPOWER
LOCAL COMMUNITIES

STRENGTHEN
SUPPLY CHAIN RESILIENCE



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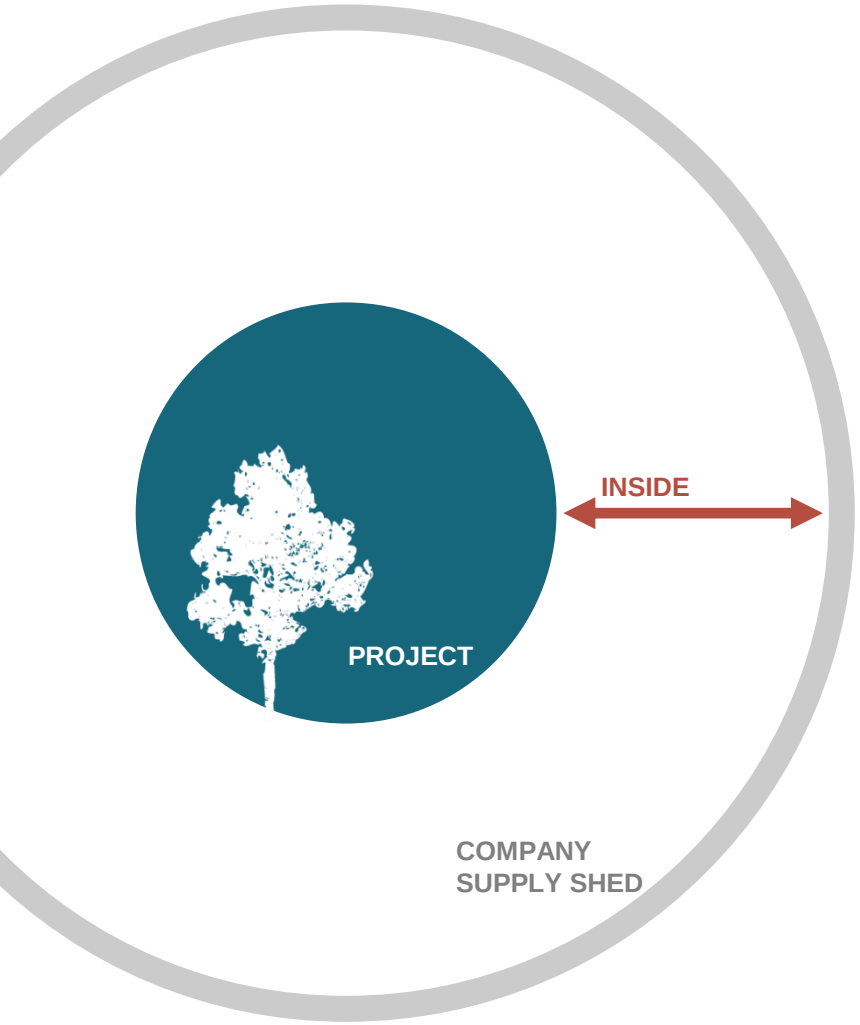
Through

INSETTING



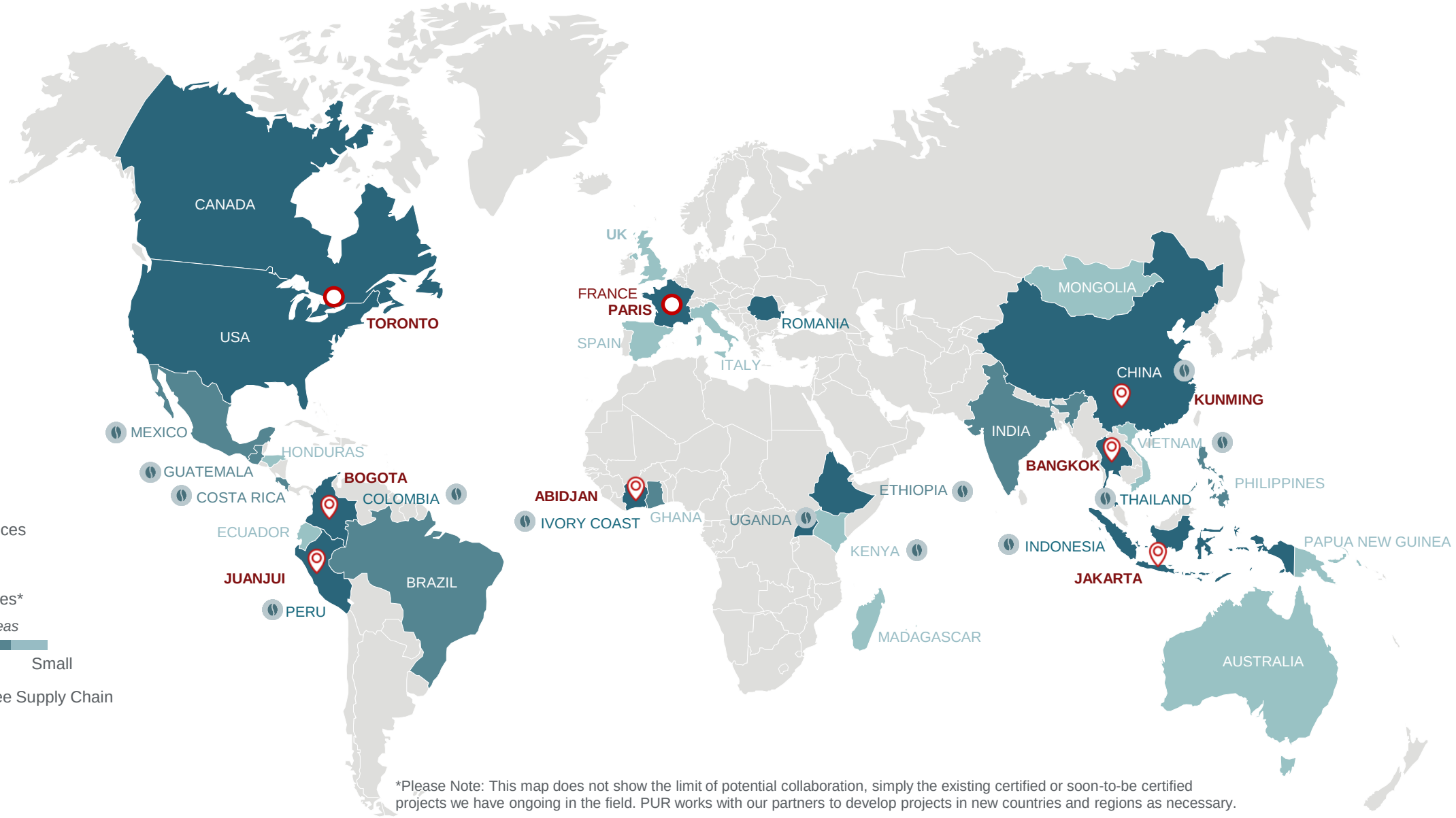
*The **strategic investment** in ecosystem restoration projects within a company's agricultural sourcing communities &/or regions that produce measurable environmental benefits to be counted against the company's environmental footprint.*

Supply Chain Linked Interventions

Through
Community Empowerment

GLOBAL PROJECTS AND DIVERSITY OF SUPPLY CHAINS

13 COUNTRIES WITH COFFEE AGROFORESTRY PROJECTS



LEGEND

- HQ & Central Offices
- Field Offices
- Projects & Activities*
  - *Project Focus Areas*
  - Large — Small
- Presence in Coffee Supply Chain

*Please Note: This map does not show the limit of potential collaboration, simply the existing certified or soon-to-be certified projects we have ongoing in the field. PUR works with our partners to develop projects in new countries and regions as necessary.

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REGENERATIVE AGRICULTURE

PUR'S DEFINITION

Regenerative Agriculture encompasses **holistic practices** that create net beneficial impacts on ecosystem services. This includes improving net **carbon sequestration**, enhancing **watershed and soil health** & promoting **biodiversity**. By necessity, these activities must provide net beneficial **economic and social** impacts for farmers and local communities to be sustainable over the long term.

Carbon Sequestration

Soil Health

Water resources quantity and quality

Biodiversity

Farmer's Income

REGENERATIVE COFFEE

KEY PRACTICES

The below **practices** are considered the main ones to be applicable to coffee farms:

	SOIL	WATER	BIODIVERSITY	CARBON	LIVELIHOODS
AGROFORESTRY	++	++	+++	+++	+++
COMPOST (or other organic amendments)	+++	+	++	++	+
COVER CROPPING	+++	++	++	+++	+
INTEGRATED PEST MANAGEMENT	++	+	+++	+	+++
IRRIGATION MANAGEMENT (when relevant)	+	+++	+	++	+

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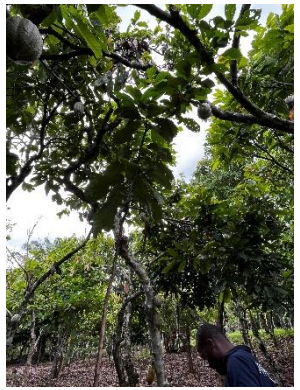


AGROFORESTRY IS…

… the collective name for land-use systems and technologies, where woody perennials (trees, shrubs, palms, bamboos, etc.) are deliberately used on the same land management units as agricultural crops and/or animals, in some form of interacting spatial arrangement or temporal sequence (FAO, 2015).

AND FOR COFFEE LANDSCAPES?

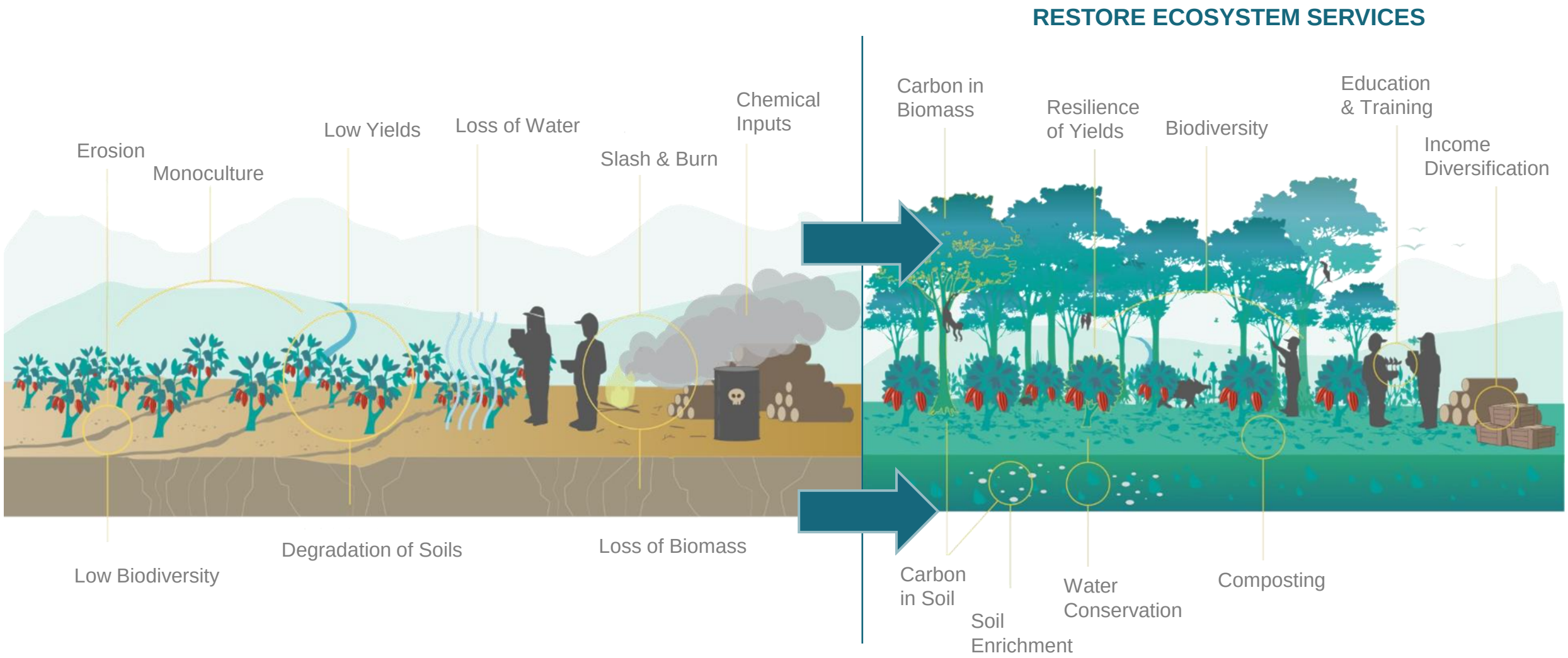
While trees used to be present in traditional coffee systems, today, coffee is often planted in **full-sun monoculture** aiming for higher productivity.

Coffee is a crop that thrives **under the adequate amount of shade**. Trees can be re-integrated in the landscape following various models:

- Stratified intercropping within coffee plots
- Windbreaks, riparian buffers, hedges
- On degraded lands, slopes or on fallow land during rejuvenation

AGROFORESTRY BENEFITS AT FARM LEVEL

SUPPORTING MORE RESILIENT COFFEE PRODUCING COMMUNITIES & LANDSCAPES



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AGROFORESTRY CAN CONTRIBUTE TO COMPANIES' SUSTAINABILITY GOALS

HOLISTIC BENEFITS FOR ADDRESSING MULTIPLE CHALLENGES

CARBON | RESTORATION | LIVELIHOODS | BIODIVERSITY | REGENERATION

AGROFORESTRY IS APPROACHED AT LANDSCAPE LEVEL

INCLUDING ALL TYPES OF LAND USES AND STAKEHOLDERS WITHIN A SUPPLY-SHED

REFORESTATION
- Soil Improvement & Protection
- Promotion of Ecosystem Services
- Income Diversification

ON PARCEL AGROFORESTRY & REGENERATIVE AGRICULTURE
- Soil Improvement & Protection
- Micro-Climate Control & Resilience
- Physical Crop Protection
- Income Diversification

BOUNDARY PLANTING
- Physical Crop Protection
- Income Diversification
- Erosion Control
- Biodiversity Corridors

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DESIGNING AGROFORESTRY MODELS

FACTORS AFFECTING COFFEE YIELDS IN AGROFORESTRY SYSTEMS

Each farmer will present specific conditions and needs depending on a variety of factors. In the project design and during project implementation, it is necessary to consider the specificities of each parcel and farm through an **individual farm visit and diagnostic.**

Factors Independent of Agroforestry

- Agricultural Practices & Parcel Maintenance
- Financial Literacy
- Parcel Orientation & Location
- Extreme Weather Events
- Access to Resources, Finance & Capital
- Quality of Agricultural Inputs
- Variety and Age of Coffee Trees
- Incidence of Pests

Factors Benefitting from Agroforestry

- Level of Shade
- Soil Quality & Micro-Fauna
- Water Availability
- Micro-Climatic Conditions
- Natural Pollination
- Ecosystem Service Resilience
- Variety and Age of Coffee Trees
- Incidence of Pests

Coffee yields are the result of a combination of these factors. Agroforestry is an added layer of expertise for coffee farmers, which they need to learn. To improve yields and famers conditions permanently, it is fundamental to **combine agroforestry initiatives with adequate trainings on agricultural practices and access to necessary resource** to maximize benefits over the long-term.

DESIGNING AGROFORESTRY MODELS

ADAPTING TO THE LOCAL CONTEXT AND NEEDS

Community

Research

Experience/Expertise

Network

AGROFORESTRY MODEL EVALUATION TOOL

Coffee Yield Impact Assessment

Ecosystem Stabilization Needs

Bridge Crops/Short Term Income - Pre-Coffee Production
(e.g. Plantain, Beans, Peanuts, Peppers, Medicinal Plants)

Medium Term Income – Early Coffee Production
(e.g. Tree Prunings, Fast Growth Timber, Avocado, Orange)

Long-Term Income
(addition of Slow Growth Timber)

Carbon Assets Benefits

Supplementary Short-Term Incentives

Ex-Ante Desired Impact Metrics
(Income Diversification, Carbon Sequestration, etc…)

Market Access Studies

AGROFORESTRY AT SCALE

SUCCESS FACTORS

INCLUSIVE

Of the various stakeholders of the supply chain from producers to buyers

COLLABORATIVE

Various sustainability and supply chain actions within a same community should be coordinated to maximize efficiency and impact

COMMUNITY-BASED

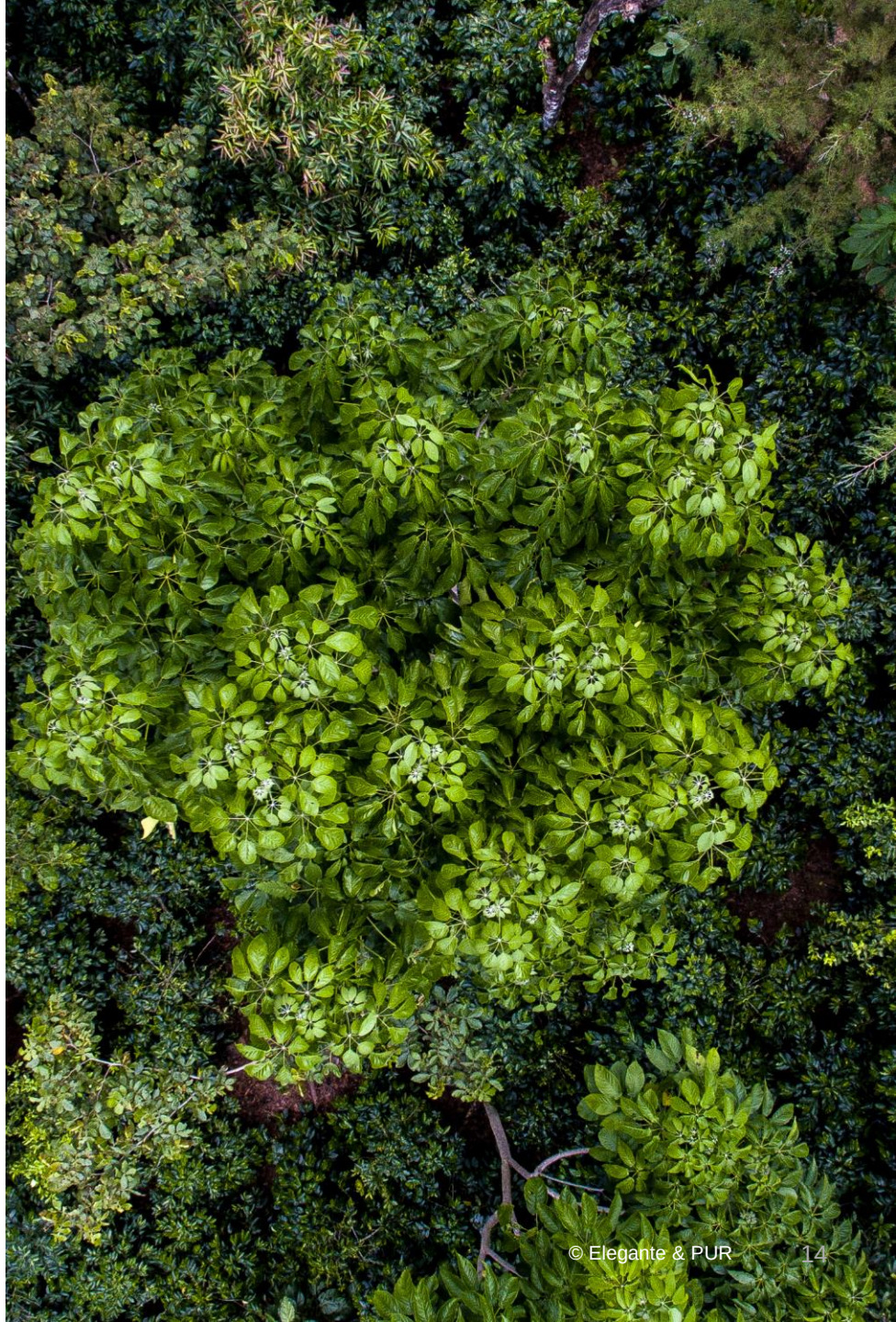
Design based on field reality and addressing farmers needs

CAPACITY BUILDING

Working with communities in the development of infrastructure (e.g., tree nurseries), and training dedicated local teams to implement and monitor agroforestry projects.

TAILORED FOR LONG-TERM

Understanding drivers for long-term permanence and develop long-term assets for farmers. Additionally, ensuring long-term engagement of supply-chain stakeholders in the projects.



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