THE IMPORTANCE OF AGROFORESTRY IN THE TRANSITION TO REGENERATIVE COFFEE

MAY 2023
Driving change by developing unique INSETTING projects within our partners’ agricultural landscape & communities.

- **RESTORE**
  - ECOSYSTEMS

- **EMPOWER**
  - LOCAL COMMUNITIES

- **STRENGTHEN**
  - SUPPLY CHAIN RESILIENCE
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**

- **Regenerative Agriculture**
- **Landscape Reforestation**
- **Forest Conservation**

Through **Community Empowerment**
GLOBAL PROJECTS AND DIVERSITY OF SUPPLY CHAINS

13 COUNTRIES WITH COFFEE AGROFORESTRY PROJECTS

*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.
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.
REGENERATIVE COFFEE
KEY PRACTICES

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

<table>
<thead>
<tr>
<th>Practice</th>
<th>Soil</th>
<th>Water</th>
<th>Biodiversity</th>
<th>Carbon</th>
<th>Livelihoods</th>
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</thead>
<tbody>
<tr>
<td>Agroforestry</td>
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<td>Cover cropping</td>
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<tr>
<td>Integrated Pest Management</td>
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<tr>
<td>Irrigation Management</td>
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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

RESTORE ECOSYSTEM SERVICES

Erosion  Monoculture  Low Yields  Loss of Water  Slash & Burn  Chemical Inputs

Carbon in Biomass  Resilience of Yields  Biodiversity

Low Biodiversity  Degradation of Soils  Loss of Biomass

Carbon in Soil  Water Conservation  Soil Enrichment

Education & Training  Income Diversification

Composting
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

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

REFORESTATION
• Soil Improvement & Protection
• Promotion of Ecosystem Services
• Income Diversification
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 farmers 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.

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
DESIGNING AGROFORESTRY MODELS
ADAPTING TO THE LOCAL CONTEXT AND NEEDS

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

Community
Research
Experience/Expertise
Network

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.