



Leveraging Supply Chains to Regenerate Farmland and Forests

19. May. 2017





a project of



Sustainable Food
Trade Association
organic leaders for sustainability

Our industry can and must
respond to climate change.

Make a commitment to climate in one or more areas!



Integrate carbon farming into the agricultural supply chains



Increase energy efficiency



Reduce food-waste in the supply chain



Remove commodity-driven deforestation from supply chains



Responsible engagement in climate policy



Reduce the climate impact of packaging



Commit to 100% renewable power



Reduce short-lived climate pollutant emissions



Reduce climate impacts of transportation

Our
Impacts

55

COMPANIES COMMITTING
TO CLIMATE ACTION

190

COMMITMENTS

1ST

CLIMATE
DAY

500⁺

ATTENDEES

1,500⁺
LIVESTREAM
AUDIENCE

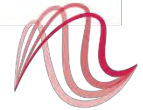
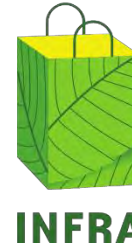
6000⁺
*Views of the
Climate Day Video*

Made possible by these generous donors!

Climate Collaborative Catalysts



Climate Collaborative Champions



Presence
PRESENCE MARKETING DYNAMIC PRESENCE

Climate Collaborative Leaders



Climate Collaborative Allies





Commit. Act. Impact.



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a project of



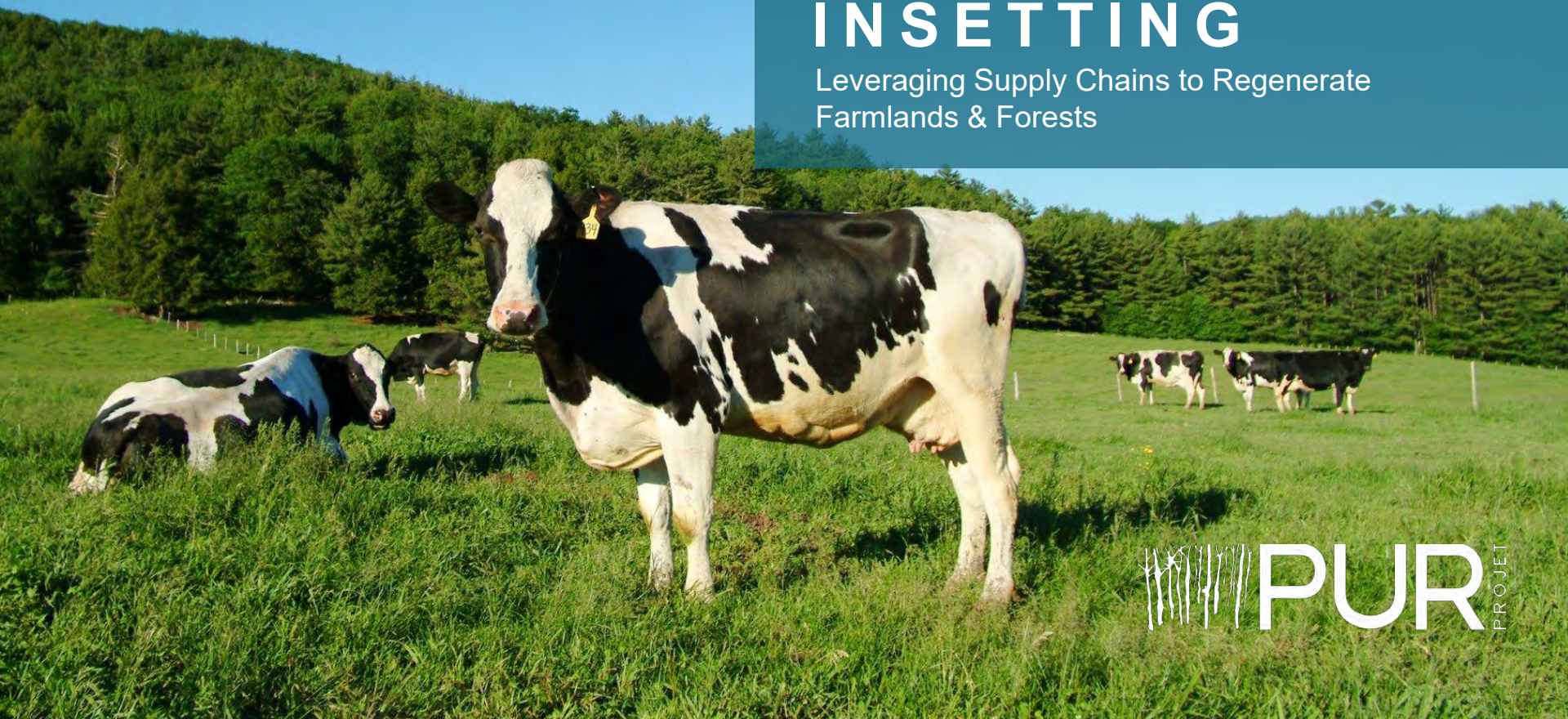
Sustainable Food
Trade Association
organic leaders for sustainability



**CLIMATE
COLLABORATIVE™**
Commit. Act. Impact.

INSETTING

Leveraging Supply Chains to Regenerate
Farmlands & Forests



 **PUR** PROJET

TODAY'S DISCUSSION

INTRODUCTION TO
PUR PROJET

WHAT IS INSETTING?

OUR PROCESS

PROJECT IMPACTS

INSETTING CASE STUDIES

TAKING THE FIRST STEPS



MISSION

Assisting Companies To "Inset" Their Activities

PUR Projet develops socio-environmental projects within the supply chains of our Corporate Partners. Through the empowerment and the introduction of sustainable development initiatives in local communities, PUR Projet seeks to address climate change, while regenerating and preserving the ecosystems upon which these supply chains depend.



At the core of PUR Projet's project activities is an **ecosystem regeneration and restoration** initiative within an agricultural supply chain. While the most common projects include **community agroforestry and reforestation**, PUR has also worked in other ecosystem types (eg. Coral Reefs).

LEVELS OF ENGAGEMENT

From Sustainable Sourcing to Industry Transformation

SUPPLY CHAIN MANAGEMENT

ENVIRONMENTAL & SOCIAL MANAGEMENT SYSTEM

Work with our Partners to clarify their social & environmental **exposure** and **values**. Identify **KPIs**, the appropriate **level of intervention** for their organization and a **system** to implement effective change.

SUSTAINABLE SOURCING

Support our Partners in the sustainable **sourcing** of their ingredients. From the **Farm to the Table**, we engage with key actors along the entire supply chain.

AUDIT/EVALUATION

Perform **desk reviews** and **interviews** with our Partners and their suppliers to **ensure compliance**, **evaluate impacts** and **identify opportunities** for positive impact projects.

PROJECT LEVEL INSETTING

FEASIBILITY ASSESSMENT

Evaluate potential candidates within our Partners' supply chains for positive impact projects. Candidates are evaluated for **relevance**, **feasibility**, long-term **sustainability** potential, **ease** of implementation and **quality** of operations.

PROJECT DESIGN

Design of project **structure**, **governance**, planting **models** and **procedures**. Identification of **KPIs** and monitoring protocols.

IMPLEMENTATION

Identification and **training** of local project participants, **planting**, **registration** of Farmers/parcels & initiation of all **protocols**.

MONITORING

Provide continued monitoring of social and environmental **impacts** of the project. Support **certification** where appropriate.

IMPACT INVESTMENT

PROJECT DEVELOPMENT

Leveraging existing inseting projects: expand the **scope** and **scale** of operations to make them available to investors and scale social and environmental benefits.

INVESTMENT MODEL

Develop innovative **financial models** to support investment, seeking to **limit risks** for the investor while **maximizing** social, economic and environmental **benefits**.

PROJECT MANAGEMENT

Support the management of the project throughout the investment timeframe and beyond to ensure high quality and alignment with protocol.

SOCAL & ENVIRONMENTAL IMPACT MONITORING

Provide measurable social and environmental impact monitoring services to evaluate the efficacy of investment projects.



SUPPORT FOR COMMUNICATION
& MARKETING



INFORMED DECISION MAKING

POSITIVE IMPACT PROJECTS

INDUSTRY TRANSFORMATION

INSETTING GOALS

Integrated Projects That Achieve Multiple Benefits



REGENERATE & CONSERVE ECOSYSTEMS

- climate change mitigation & adaptation
- agroforestry, reforestation, forest conservation
- promotion of ecosystem services

EMPOWER COMMUNITIES

- support the integrity of local cooperatives/associations
- create real educational and social value for Farmers
- amplify, stabilize and diversify income for Farmers
- create long-term economic opportunities for the community

TRANSFORM THE AGRICULTURAL INDUSTRY

- strengthen the integrity of supply chains
- highlight positive correlation between positive action and the strength of their business
- secure quality and quantity of yields over the long-term
- control upstream costs, while increasing Farmer's benefits

TODAY'S DISCUSSION

INTRODUCTION TO
PUR PROJECT

WHAT IS INSETTING?

PROJECT IMPACTS

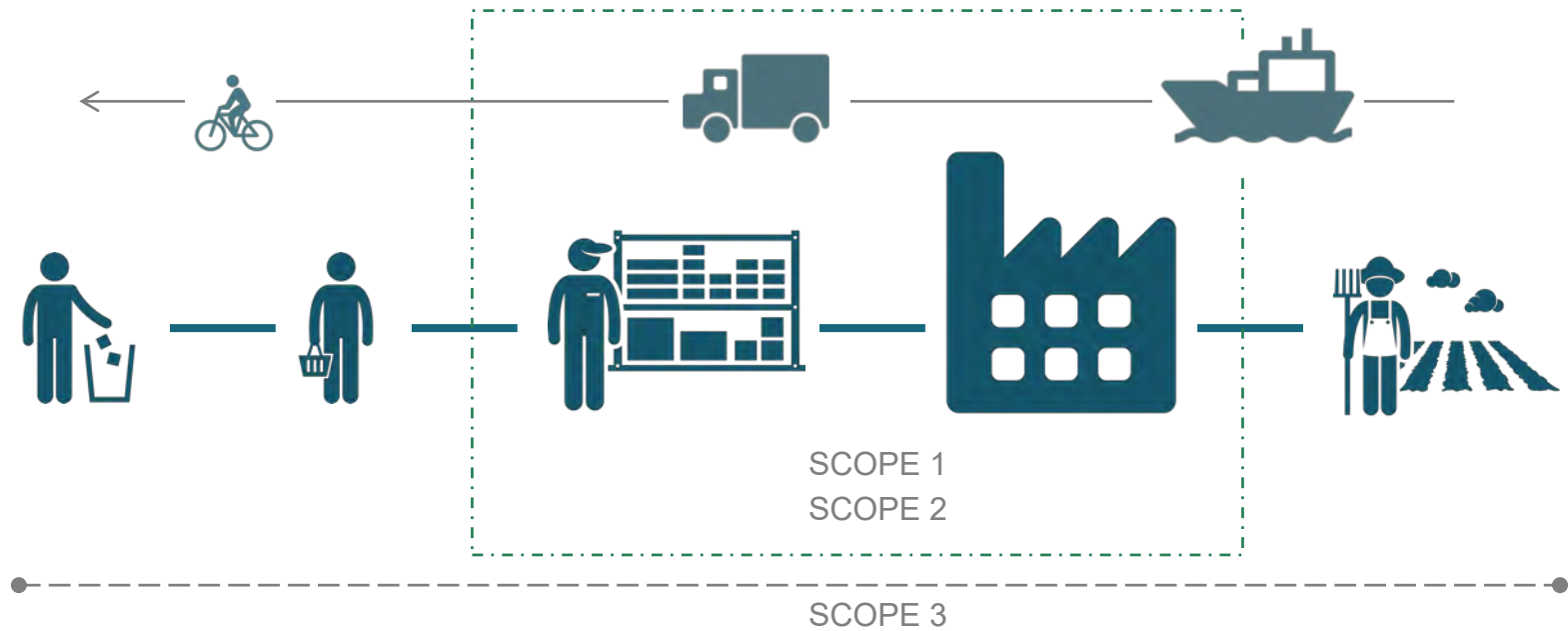
INSETTING CASE STUDIES

TAKING THE FIRST STEPS



CLIMATE IMPACT

Assessing & Addressing Your Product's Footprint



While some climate impacts can be mitigated internally within *Scope 1*, often *Scope 2* emissions are addressed through the use of **Offsets**, & *Scope 3* emissions are often left unaddressed.

CHALLENGES FACING COCOA INDUSTRY

Example of Decreasing Yields and Increasing Pressures



70% of Global
Cocoa is Grown by
Smallholder Farmers

Low levels of education & technical expertise among smallholder farmers can lead to **environmental, social and economic challenges** for cocoa producing communities. These challenges can manifest in **reduced yields, loss of ecosystem services**, and thus **further encroachment into forests**.



Aging Cocoa
Trees Stocks

Globally, the cocoa growing community is experiencing an aging population of cocoa trees that are **past their peak production**. For smallholder farmers, there is a high financial barrier to replace these trees, contributing to a **positive feedback loop of decreasing yields**.



Full Sun
Monocultures

Monocultures provide **high short-term cocoa yields** to the **detriment of long-term parcel and yield sustainability**. While these parcels benefit from low pressure from pests, and benefit from high soil fertility in the first years of production, they subsequently experience **low pest protection** and **high levels of soil erosion**, reducing yields and increasing costs for producers. In addition, the parcels are **highly susceptible to environmental changes**.



Low Economic
Opportunities

With an **aging Farmer population** and positive feedback loops **driving yields lower** while **increasing costs for Farmers**, Farmer families are starting to **migrate out of the industry**, seeking new opportunities. With limited diversification of revenues, and livelihood strategies, the **business case for Farming cocoa continues to weaken**.

IN SETTING

Addressing Climate, Supporting Livelihoods and Creating Resilience

OPPORTUNITY TO
INVEST



MITIGATE CLIMATE CHANGE

Address Scope 3 & Inset Scope 1 & 2

PROMOTE

Ecosystem Services & Biodiversity

STABILIZE YIELDS

REDUCE COSTS

PROVIDE

Alternative Income Opportunities

ADAPT

To Climate Change

REDUCE PRESSURE

On Natural Ecosystems

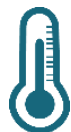
INSETTING VIA AGROFORESTRY

Diverse Benefits from a Single Climate Action

ENVIRONMENT



Climate change mitigation



Climate change adaptation



Provide habitat for biodiversity



Reduce soil loss



Enhance soil quality & fertility



Support a healthy hydrological cycle

COMMUNITY

Education



Employment



Stabilize base income



Diversify & increase income



Create patrimony value

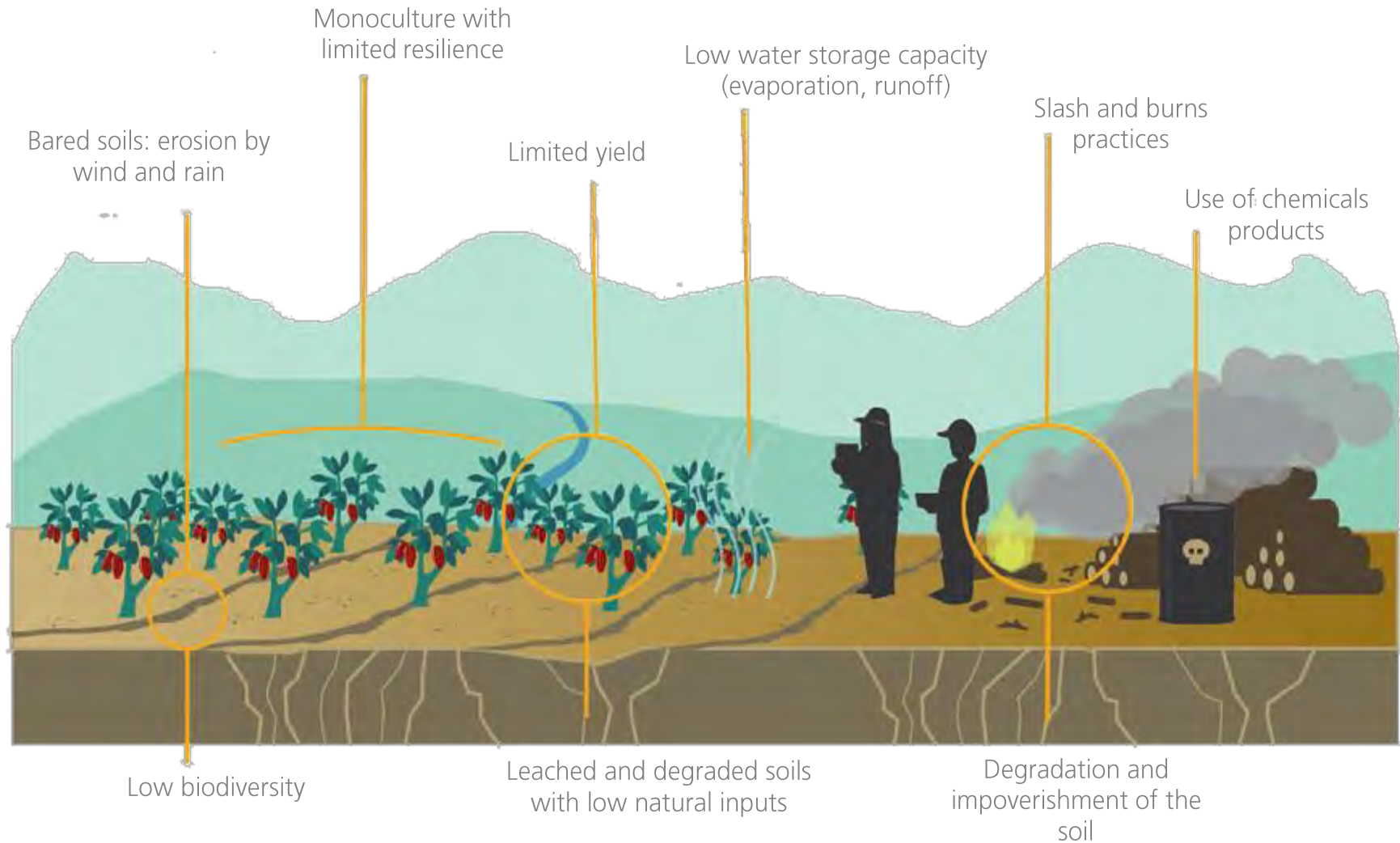


Social cohesion & capacity building



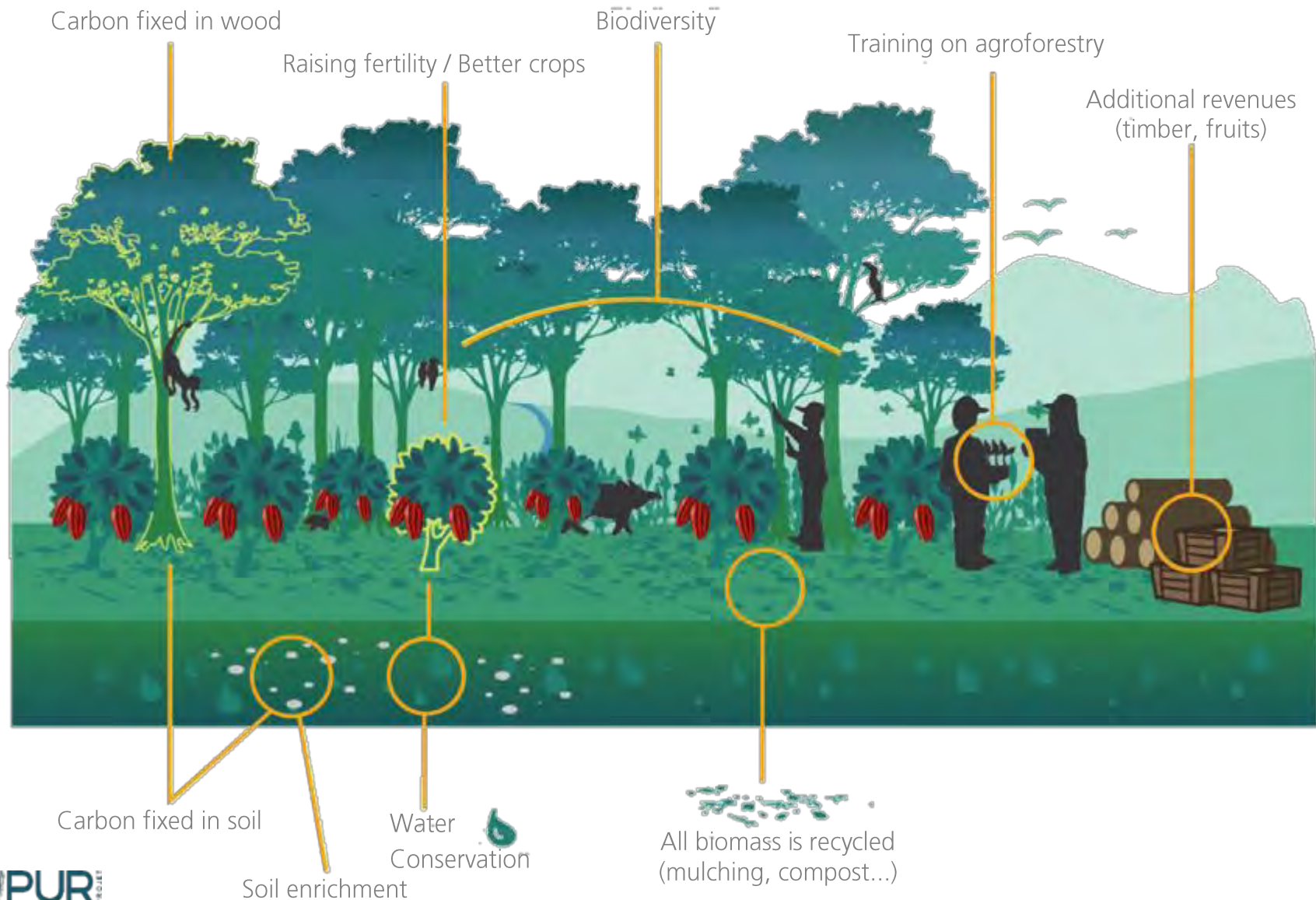
INSETTING VIA AGROFORESTRY

To switch from degraded lands...



INSETTING VIA AGROFORESTRY

... to Polyculture at landscape level

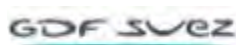


OUR REACH: 40 PROJECTS AROUND THE WORLD

Over 8 million trees planted
215 million trees under conservation
with More than 30,000 farmers



SELECT PARTNERS



SELECT SUPPLY CHAINS ADDRESSED

PLANT BASED MATERIALS

Coffee	Potato	Banana
Cacao	Cotton	Apples
Rice	Timber	Cherries
Tea	Olives	Plums
Vanilla	Almonds	Nuts
Quinoa	Coconut	Grapes
Wine	Patchouli	Citrus
Sugarcane	Flowers	Orchids
Licorice	Herbs	Medicinal Plants
White Tea	Rubber	

ANIMAL PRODUCTS

Silk	Milk
Honey	Leather
Beeswax	Nacre
Cashmere	Corals
Fish	

INORGANIC

Water

Note: This list is non-exhaustive due to confidentiality



TODAY'S DISCUSSION

INTRODUCTION TO
PUR PROJECT

WHAT IS INSETTING?

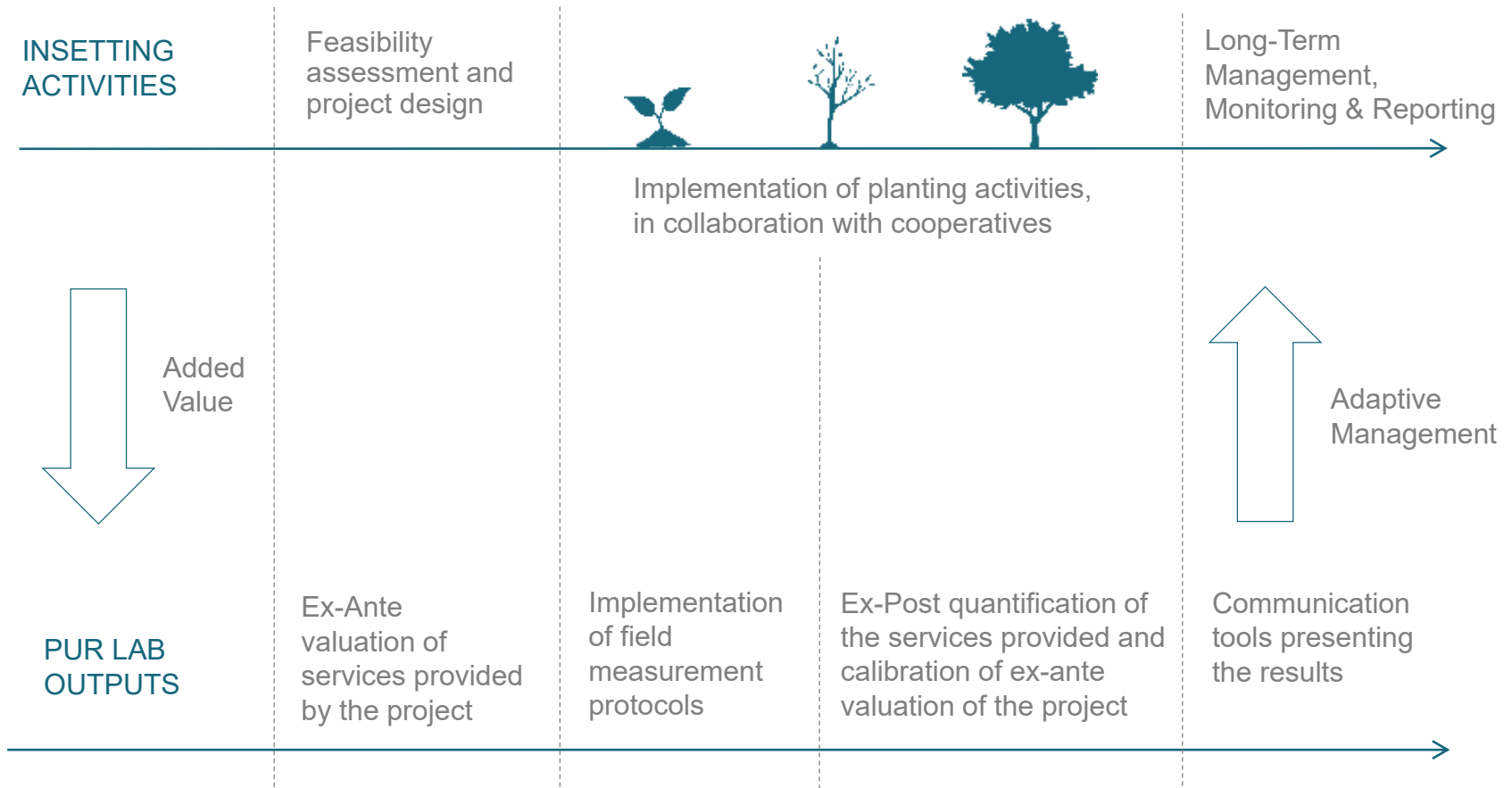
PROJECT IMPACTS

INSETTING CASE STUDIES

TAKING THE FIRST STEPS



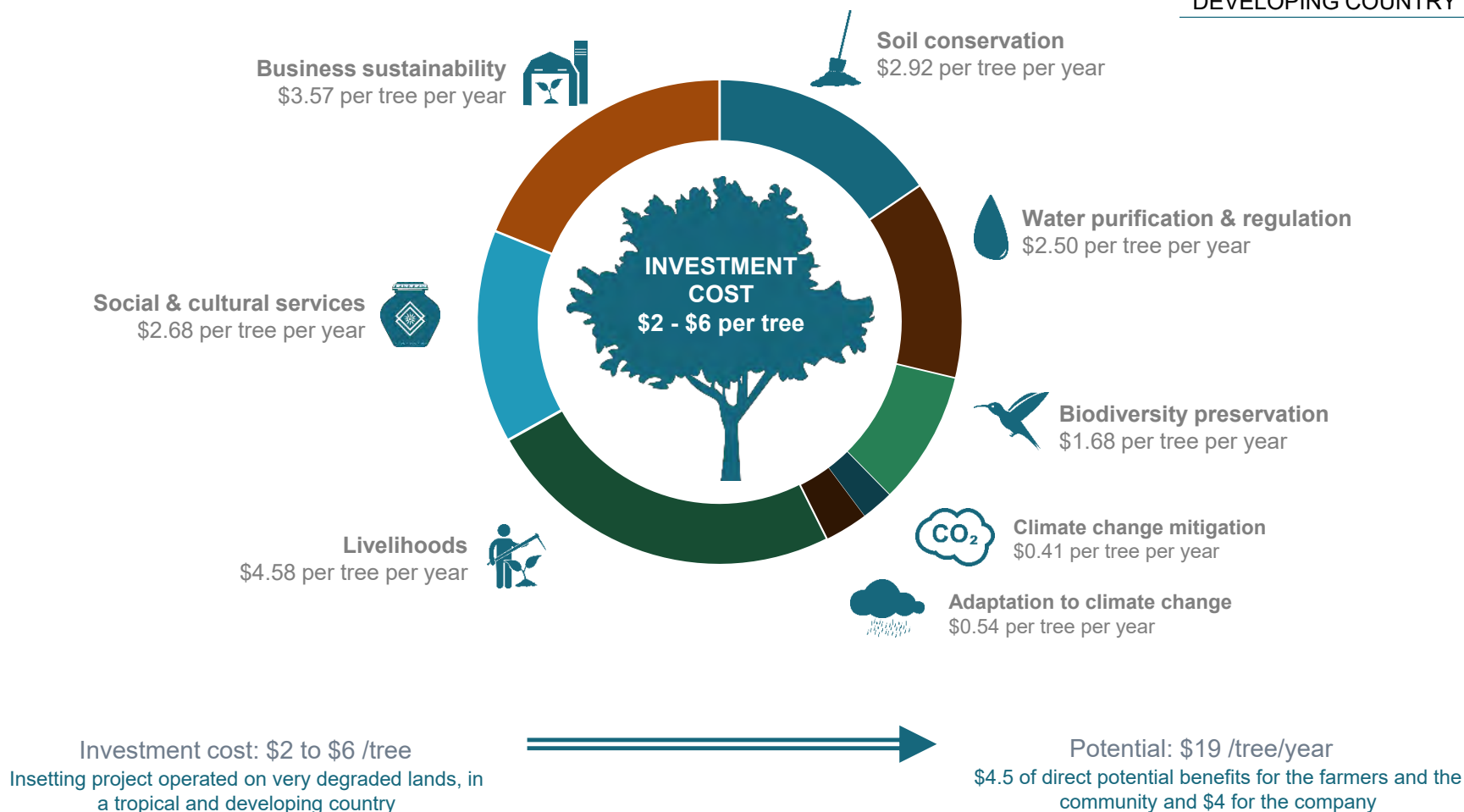
COMPANIES: A COLLABORATIVE WORK TO OPTIMISE SUSTAINABLE INVESTMENT



OUTSTANDING POTENTIAL VALUE CREATION



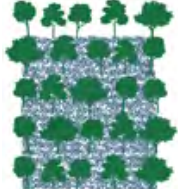
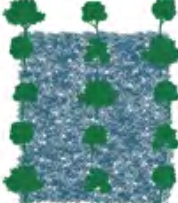
Measuring up to \$19 worth of services per tree per year

TROPICAL CLIMATE
DEVELOPING COUNTRY



CARBON IMPACT

Indicative Carbon Values for Basic Planting Models

		TROPICAL FOREST 3-5 trees/tCO ₂ e	TEMPERATE FOREST 8-10 trees/tCO ₂ e
MODEL 1: BOUNDARY PLANTING Trees Planted in Boundaries of Parcel Every 3 meters Around Perimeter Density of Trees: 133 trees/ha		~26-44 tCO ₂ e/ha	~13-16 tCO ₂ e/ha
MODEL 2: INTERCROPPING Trees Planted Within and Surrounding the Parcel Every 3 meters Around Perimeter 12x12 or 14x14 meters within the Parcel Density of Trees: 184 - 202 trees/ha		~36-67 tCO ₂ e/ha	~18-25 tCO ₂ e/ha
MODEL 3: REFORESTATION Reforestation on Degraded Lands Every 3x3 meters Within & Around Parcel Density of Trees: 1,111 trees/ha		~222-370 tCO ₂ e/ha	~111-140 tCO ₂ e/ha
MODEL 4: SILVOPASTURE Trees Planted in Pasture Lands Every 5x5 meters Within & Around Parcel Density of Trees: 400 trees/ha		~80-133 tCO ₂ e/ha	~40-50 tCO ₂ e/ha

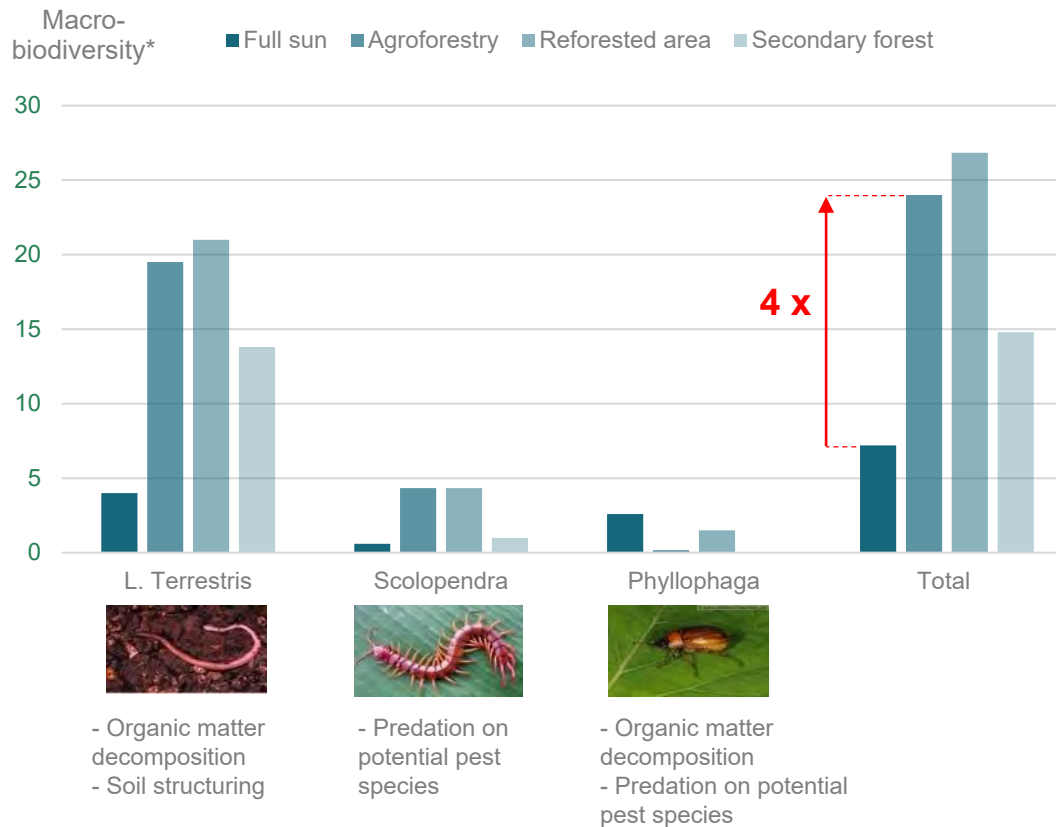
Please Note: All figures assume a 40 year project life and represent the ex-ante value of each carbon asset. These carbon values only account for the trees, and do not account for soil carbon or other vegetation (such as existing or new crops).

AGROFORESTRY IMPACTS ON SOIL FAUNA

4 TIMES MORE MACRO ORGANISMS

IN AGROFORESTRY SYSTEMS THAN IN FULL SUN SYSTEMS

INFLUENCE OF LAND USE ON SOIL MACRO BIODIVERSITY



CONTEXT

- Localization : Honduras, Olancho, Aprosacao project
- Climate : Sub tropical humid
- Soil: Inceptisol (USDA Classification)
- Crop: Cocoa

OUR PARTNER

- Universidad Nacional de Agricultura, Honduras (UNA)



TODAY'S DISCUSSION

INTRODUCTION TO
PUR PROJECT

WHAT IS INSETTING?

PROJECT IMPACTS

INSETTING CASE STUDIES

TAKING THE FIRST STEPS



FAIR TRADE CERTIFIED

Direct relationships

Pre-financing

Technical training



ORGANIC & NON-GMO

Wholesome & Heirloom

100% traceable

Traditional methods



FULL CIRCLE SUSTAINABILITY

ALTER ECO



COMPOSTABLE PACKAGING

100% plant based

FSC birch & eucalyptus

No GMOs / No Petroleum

Certified



Corporation



CARBON INSETTING

Offset emissions by planting
trees within supply chains

6,500 trees planted in 2014



GOAL: Support & Empower Cocoa Farming Communities While Producing Carbon Positive Products

LOCATION: San Martin, Peru

ACTIVITIES:

Finance Agroforestry and Forest Conservation in Cocoa Supply Chain in Correlation to Carbon Footprint

- 30 000 Trees planted on 125 acres with 60 farmers
- 200 000 acres conserved with 20 communities

Support additional economic & social development initiatives designed and implemented by local community.

RESULTS:

Brand **Differentiation**
Customer **Partnerships**
Supply Chain **Integrity**
Support for **Business Continuity** in Cocoa Industry





ALTER ECO®

IMPACT

| CARBON INSETTING

28,639

TREES PLANTED SINCE 2008

**267,000 HECTARES
RAINFOREST PRESERVED**

By planting trees and preserving rainforests with our cacao producers in Peru we naturally sequester carbon, regenerate soil, support biodiversity and preserve the ecosystems that provides their livelihood.

**12,471 TONS
CO2 OFFSET SINCE 2008**

Our environmental standard is to be a carbon negative business, insetting more than we emit. Every year we compensate our complete GHG Protocol carbon footprint from our full product line.

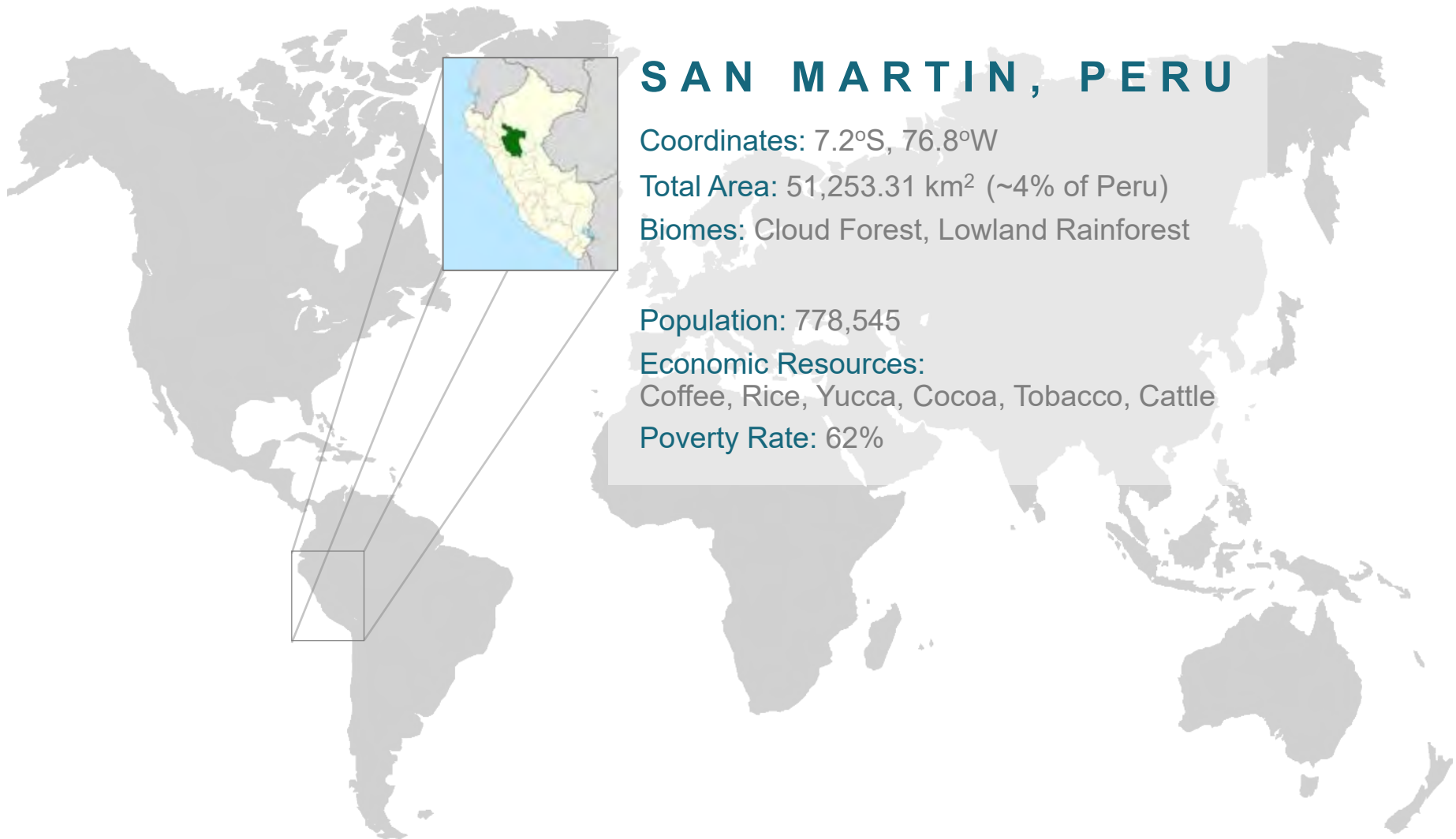
INSETTING IN COCOA

SAN MARTIN, PERU



PUR
PROJET

INSETTING – DIRECT CLIMATE ACTION



HOW DO WE BREAK THE CYCLE?

A Staged Approach to Conserving & Restoring Ecosystems

CHALLENGE:

Land Degradation

While abandoning recently degraded land, local communities continue to deforest and degrade local ecosystems for the extension of agricultural and timber production. How do we ensure effective social & economic development in the region while preserving San Martin's unique ecosystems.

2008 - Present

MID-TERM SOLUTION:

Reforestation & Agroforestry

Reforestation and agroforestry help to actively **regenerate** degraded lands, **maintain the productivity** of existing cultivation, provide a new **source of sustainable timber** to reduce the need for illegal sourcing & **increase Farmers' short and long-term yields** per hectare.

Ecosystem Conservation

Conservation provides the opportunity to delineate and maintain areas of high ecosystem value, cultural heritage and biodiversity. By preserving these areas, local communities benefit from **education** regarding the economic and social value of ecosystems, the **maintenance of important ecosystem services**, and the benefits of **local tourism**.

2016 Forward

LONG-TERM SOLUTION:

Regeneration of Degraded Lands for Sustainable Cultivation

To fully address the need for the extension of agricultural production into healthy ecosystems, a program is required to aid Farmers in the regeneration of degraded lands through the establishment of high biodiversity & ecosystem service value cultivation on existing degraded parcels. This activity **reduces the need for the extension of agriculture into healthy ecosystems**, provides **strong economic development** for local communities and provides a **sustainable path forward for agriculture** in the San Martin Region.

ENGAGE THE LOCAL COMMUNITY

To Challenge the Drivers of Deforestation



PROVIDE NEW ECONOMIC OPPORTUNITIES

To Reduce Pressure on Forests



REGENERATE DEGRADED ECOSYSTEMS

ENHANCE ECOSYSTEM SERVICES





GOALS: Supply Chain Equity
Climate Justice (Adaptation)
Climate Action (Mitigation)

LOCATIONS: Peru, Uganda & Ivory Coast

ACTIVITIES:

Agroforestry in Mixed Stands & Intercropping.
1 mln trees planted through 2015 with 3000 farmers on 4000 acres.

Conservation of 700 000 acres of Primary Forest with 20 communities (15 000 people)

RESULTS:

Support for Key Business Pillar - **Advocacy**
Support to Producer Development Initiative
(Fundamental Initiative Related to Company Values)
Supply Chain **Integrity**
Product **Quality**





NESPRESSO®

GOALS: Secure product quality and yields,
improve Farmer's future, and
neutralize carbon footprint

LOCATIONS: Colombia, Guatemala, Ethiopia

ACTIVITIES:

Plant 10 mln trees from 2013-2020

700,000 Trees Planted Through the End of 2015

Regeneration of Ecosystems on **12,000 acres**

Direct Benefits to **2,400 Farmer Households**

Integrate activities into AAA Sustainable Quality Program

Study KPIs to ensure efficacy and monitor best practice for
coffee under agroforestry

RESULT:

Integrated multi-stakes farm strategy (AAA Sustainable
Quality Program)

Farmer retention and generational resilience

Sales driver for B2B Market

Image risk mitigation





EXAMPLE PROJECT

VERMONT, USA

VERMONT

Planting for the Preservation of Lake Champlain

ACTIVITY: Riparian Reforestation
Agroforestry

LOCATION: Vermont, USA

GOAL:

Plant 23,500 trees by 2019 to:

- Reduce Eutrophication by Preventing Chemical Runoff
- Sequester CO₂
- Prevent Erosion & Maintain Soils
- Provide Habitat & Wildlife Corridors
- Diversify Farmer's Revenue

FARMER DETAILS:

Number of Farmers: 12

Crops:

Dairy, Sugar Maple, Fruit & Vegetables

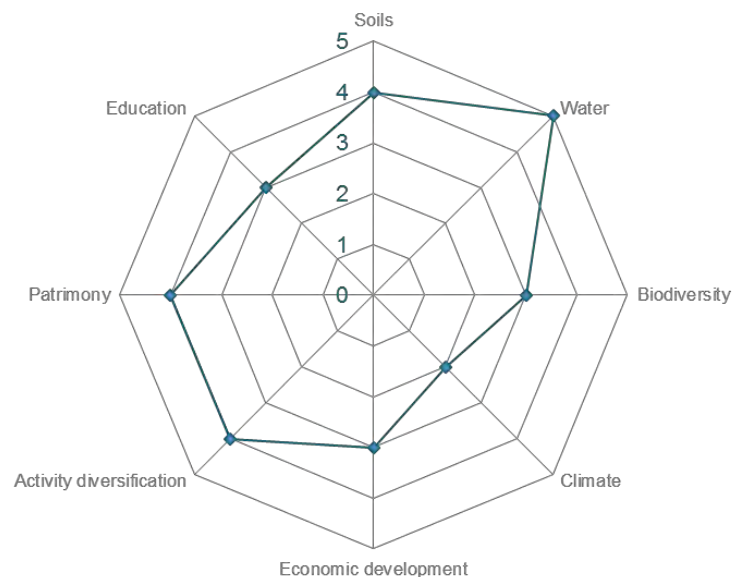
Select Trees Species for Planting:

Income: Sugar Maple, Apple, Berries, Nuts

Nitrogen Fixing: Black Locust

Other: Mix of Native Species

SOCIO-ENVIRONMENTAL BENEFITS



RESULTS TO DATE:

Program Initiated in Winter 2016

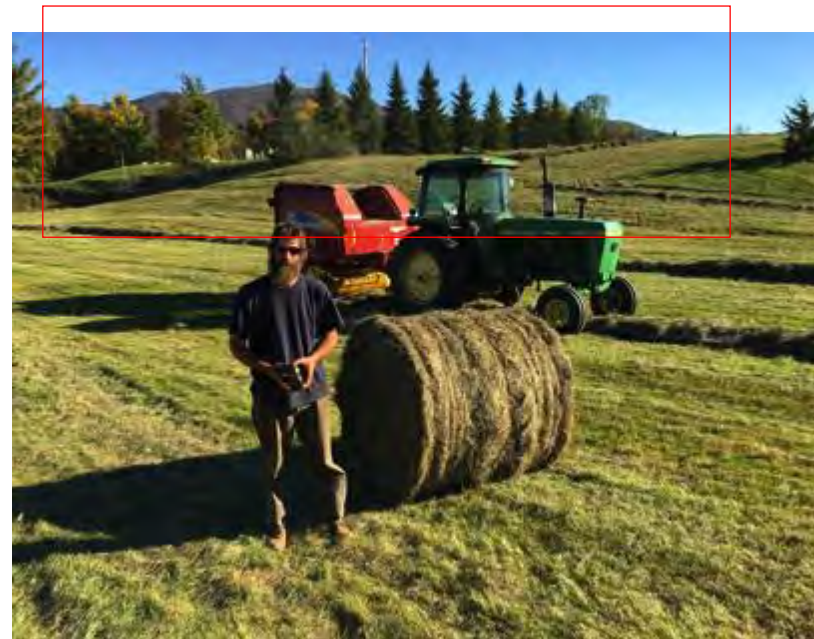
5,000 Trees Planted in Spring 2016

Strong Positive Testimonies from Farmers

63 New Farmers Have Been Identified for Program

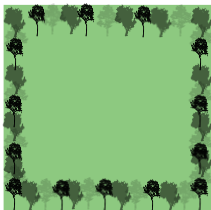
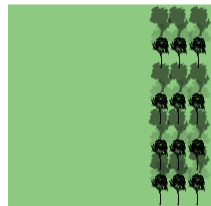
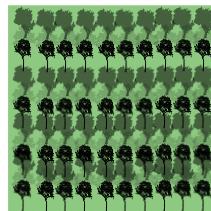

PLANTING CONFIGURATIONS

Planting In New Locations



CARBON IMPACT

Indicative Carbon Values for Basic Planting Models

		TEMPERATE FOREST
MODEL 1: BOUNDARY PLANTING Trees Planted in Boundaries of Parcel Every 12 Feet Around Perimeter Density of Trees: ~38 trees/acre		~4.7 tCO ₂ e/acre
MODEL 2: RIPARIAN BUFFER Trees Planted At Aquatic Boundaries 12x12 Feet for 35 Foot Buffer Density of Trees: ~52 trees/acre		~6.5 tCO ₂ e/acre
MODEL 3: REFORESTATION Reforestation on Marginal or Degraded Lands Every 12x12 Feet Within & Around Parcel Density of Trees: ~300 trees/acre		~37.5 tCO ₂ e/acre
MODEL 4: ROW PLANTING Trees Planted in Pasture Lands or Grain Crops Every 65x16 Feet In Rows Within Parcel Density of Trees: ~52 trees/acre		~6.5 tCO ₂ e/acre

Please Note: All figures assume a 50 year project life and represent the ex-ante value of each carbon asset. These carbon values only account for the trees, and do not account for soil carbon or other vegetation (such as existing or new crops).

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ENGAGING IN CARBON ACTION

Strategies to Integrate Insetting into your Organization

All ORGANIZATIONS are encouraged to incorporate Scope 3 agricultural emission into their carbon accounting.....

MEDIUM TO LARGE ORGANIZATIONS

with Direct Sourcing or Connection to Local Farming Communities

1. Prioritization of Potential Insetting Communities within Supply Chain;
2. Site Study to Assess Feasibility, Potential Impact and Sustainability;
3. Project Design and Implementation with Local Partners; and
4. Up to 40 Year Monitoring Period.



SMALL TO MEDIUM SIZED ORGANIZATIONS

Contract Manufacturing or Do Not Engage Directly with Local Farming Communities

1. Prioritization of Key Supply Chains with Regard to Carbon Impact;
2. Investigation of Potential Overlap of Supply Chain with Existing Projects or Commodities;
3. Insetting within Existing Projects.



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