FSD
Fair & Smart Data

Smallholder Farmers and the Voluntary Carbon Market: A Balancing Act

Online event | 15:30-17:00 CET

February 20th, 2025

Introduction

What is FSD?

Fair & Smart Data (FSD) is an action-oriented transdisciplinary research programme

Founded by Maastricht University's School of Business and Economics, Rabobank's Acorn and Solidaridad Network, FSD wants to contribute to the transition to more equitable, inclusive, and sustainable global agricultural value networks.

This transition will rely on using data and digital technology in a smart and fair way, developing sustainable and innovative business models, and ensuring inclusive governance of global supply chains.

www.maastrichtuniversity.nl/fsd

Academic Knowledge

- The most international university in the Netherlands
- Leading (executive) sustainability programmes
- Multidisciplinary approach to research and education

Rabobank

Unique Carbon Market Initiative

- Second largest Dutch Bank
- Developed the Acorn project, selling carbon removal units
- Financial expertise in Agricultural projects

Solidaridad

Field Experience in Commodities

- Global NGO striving towards inclusive, sustainable agriculture
- Leading the emerging Fair Data movement
- Working with 1.4+ million smallholder farmers

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Mission

FSD puts smallholder farmers at the centre of sustainable development and wants to improve their living conditions and livelihood assets while pursuing sustainability for all

Farmer-centric Data Governance

Ensuring that farmers have control and ownership of their data, and a good understanding of its use.

Sustainable Business Models

Enabling new income revenue streams for farmers through sustainable farming and land-use practices (e.g., climate-smart agriculture and agroforestry).

Better Positioning in Global Value Chains

Empowering farmers to get a fairer share of value in the supply chain and increase this value through the potential use of their data.

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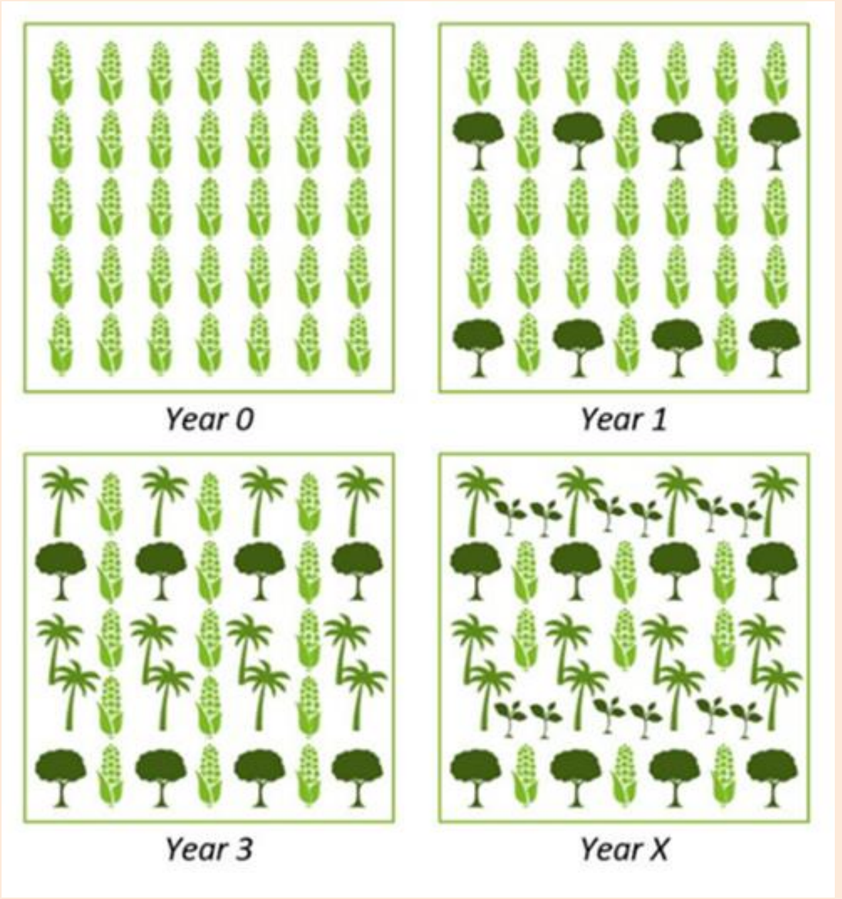
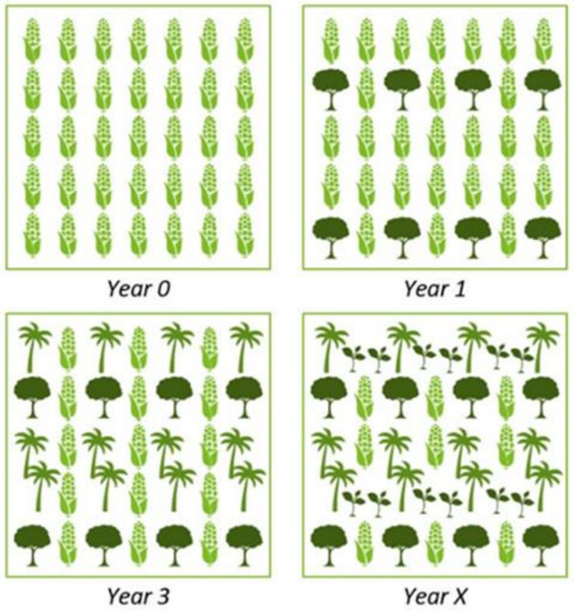
Research project

- Payments for Ecosystem Services (PES)
  - **Climate change mitigation**
  - Biodiversity conservation
  - Watershed services

Agroforestry
integrating trees into agriculture to enhance **carbon sequestration** from the atmosphere and **agricultural productivity**



Research project



Agroforestry-sequestered carbon credits are **traded** on the **VCM**

- The **Compliance market** is regulated and managed by mandatory carbon reduction regimes. Typically, governments and international bodies set caps on emissions, and companies must reduce their emissions to meet those caps or purchase permits to emit a certain level of GHGs. For example, the European Union's Emissions Trading System (EU ETS).
- The **Voluntary Carbon Market (VCM)** allows companies, organisations, and individuals to offset carbon emissions by purchasing carbon credits. The VCM differs from the compliance market because it is not subject to the same regulatory requirements and oversight.

VCM enables **companies and organizations to purchase carbon credits to offset their GHG emissions**

Research project on Smallholder Farmers and the Voluntary Carbon Market

Questions, such as

- how does the Voluntary Carbon Market work?
- what factors determine the carbon pricing in the market?
- which actors determine the value distribution in carbon credit projects?
- how are smallholder farmers compensated for agroforestry-carbon farming?

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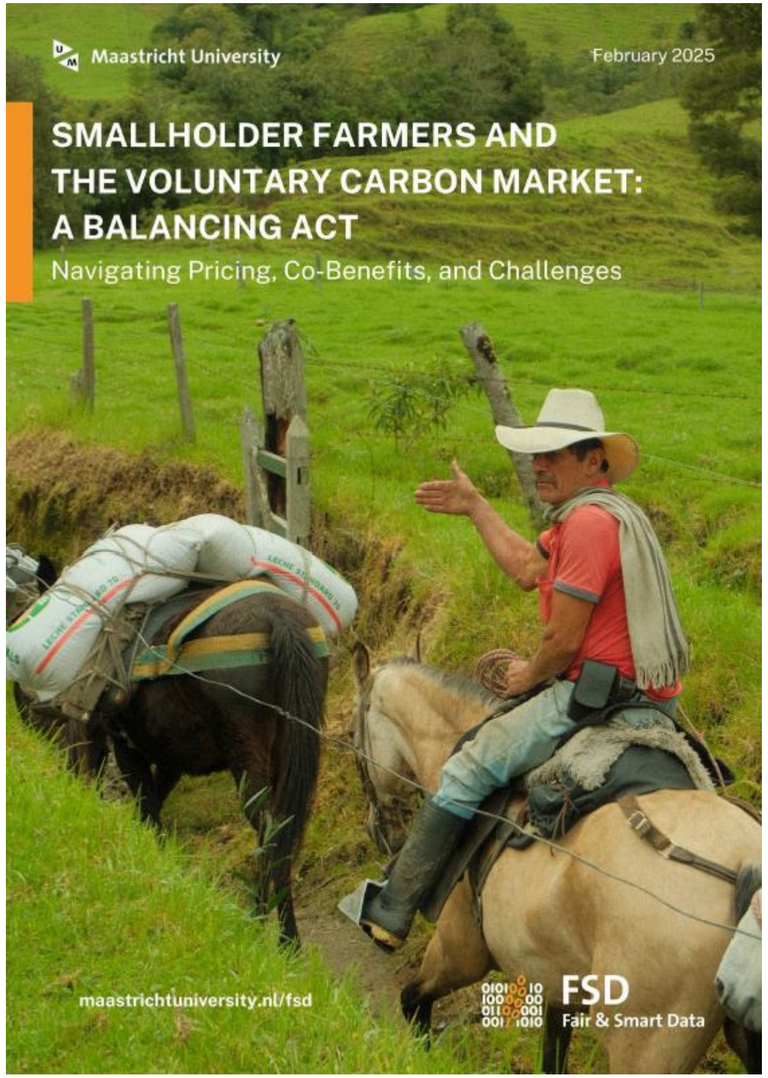
Research output



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Presenting key findings

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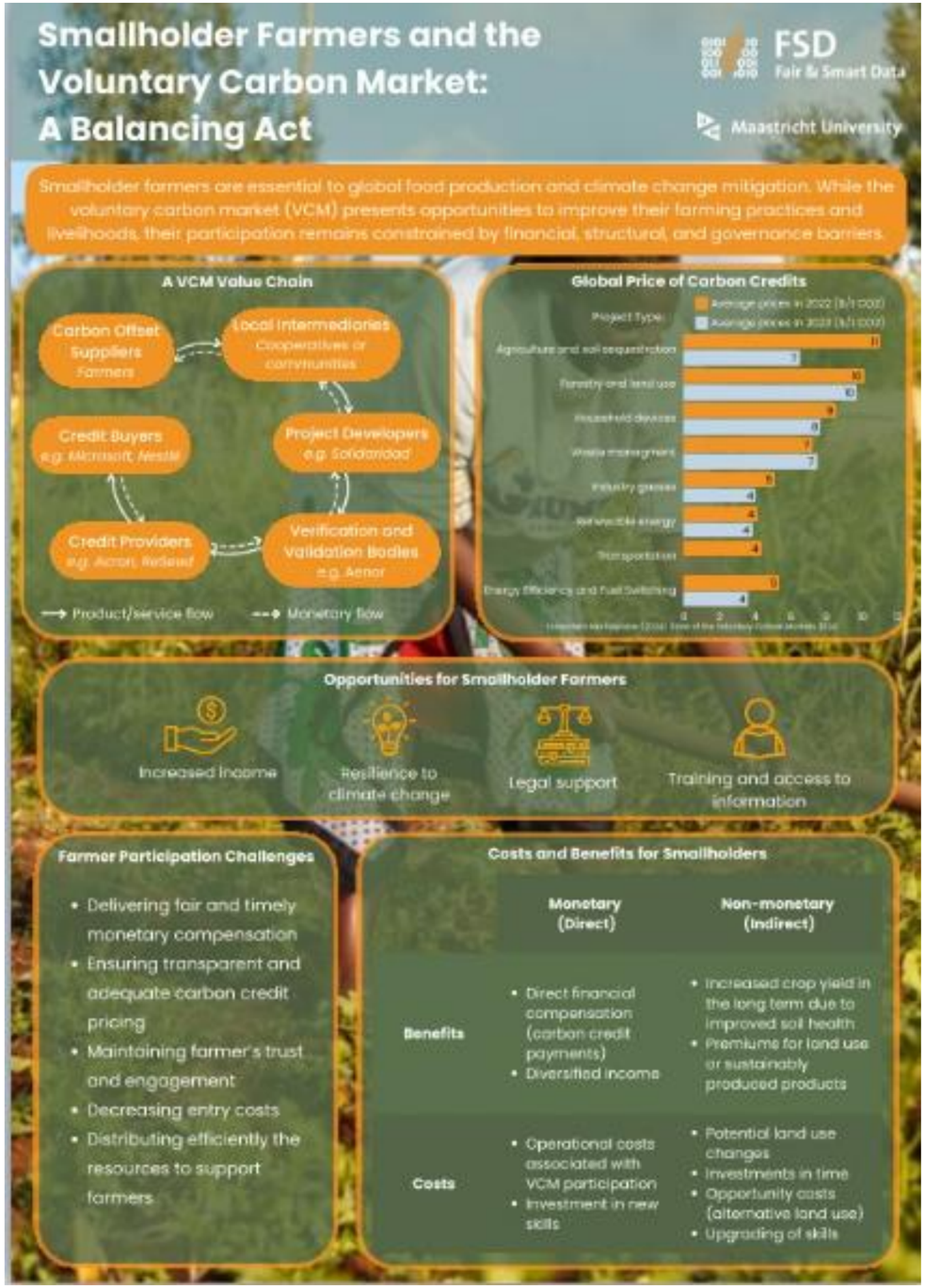

Panel discussion

Rabobank

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United Nations University
Maastricht Economic and Social Research Institute on Innovation and Technology

Voluntary Carbon Markets:

A Window of Opportunity for Smallholder Farmers?

A presentation of the research findings

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School of Business and Economics

Maastricht University

UNU MERIT

Smallholder Farmers and the Voluntary Carbon Market: A Balancing Act
Fair & Smart Data (FSD)
Webinar: Feb 20, 2025 at 3:30pm

Introduction

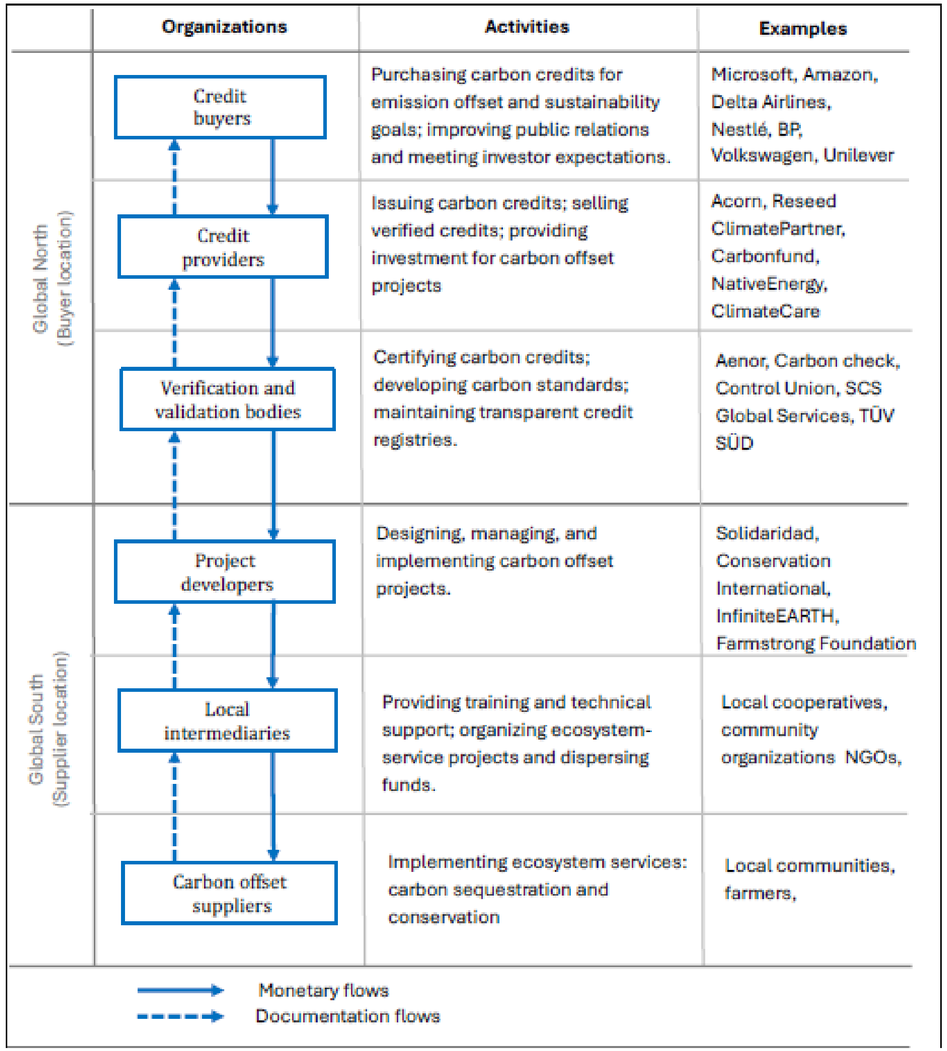
- Smallholder farmers are key players in climate action but largely excluded from the carbon market.

- Voluntary carbon markets (VCMs) may provide access, but the extent to which they can truly benefit is uncertain – need to unpack.

- Research questions
  - Do VCMs provide a window of opportunity for smallholders in the Global South?
  - How does the organization of VCM markets affect the nature and the extent of the benefits that accrue to farmers?
  - How can the governance be improved to maximize farmer benefits?

Looking at VCMs through a value chain lens

- The commodity: voluntary carbon credits
- The global value chain: The full range of interconnected activities required to produce and use a carbon credit
- Value distribution and benefits to carbon offset suppliers
  - Monetary benefits: Carbon credit payments – an extra income for smallholders
  - Co-benefits: Land-use benefits (improved resilience), future marketing benefits



The cases: two different types of eco-system services

Jinotega & Matagalpa Project (Nicaragua)

Agroforestry project

Quilombola Community Carbon Project (Brazil)

Forest conservation

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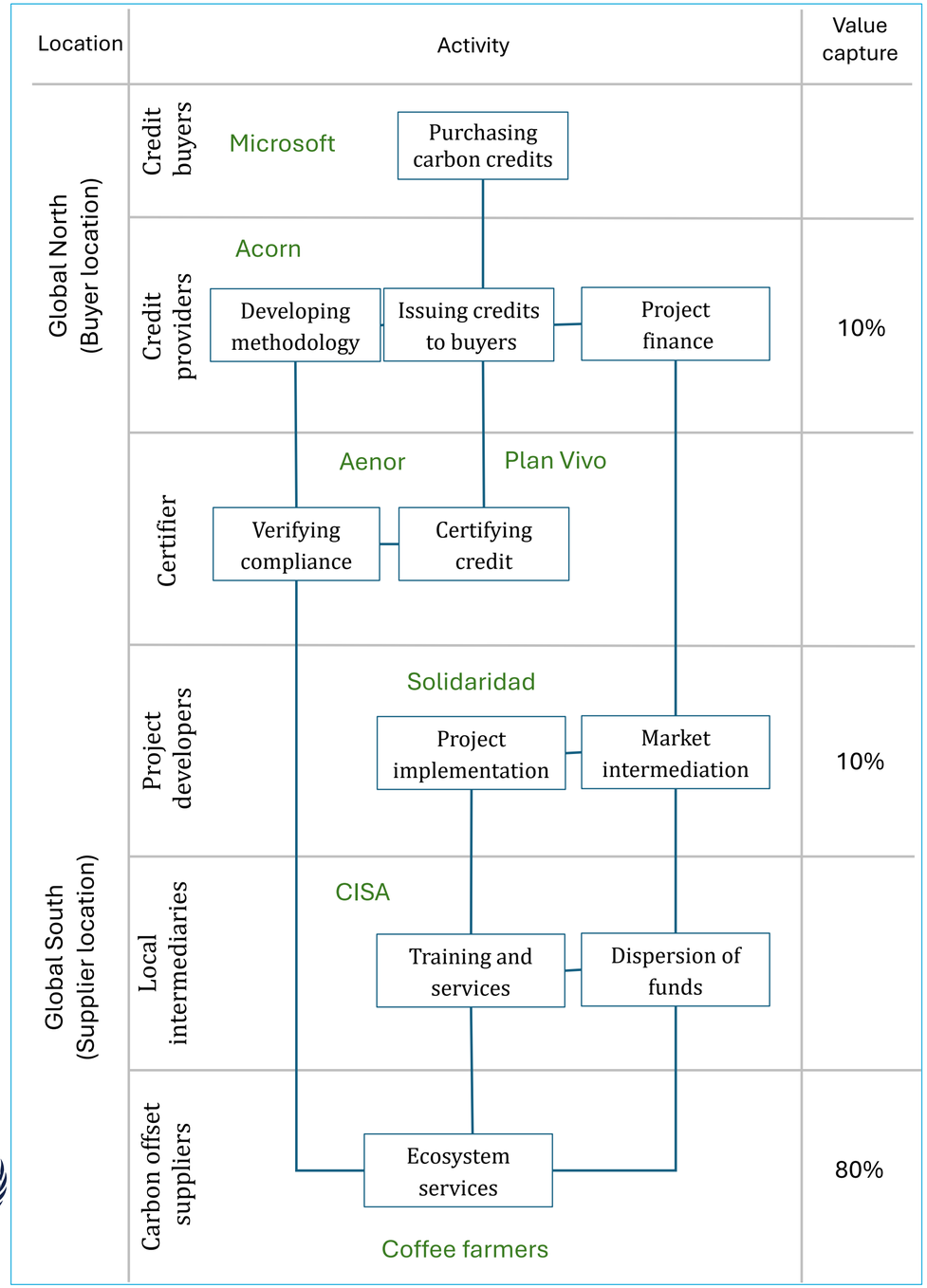
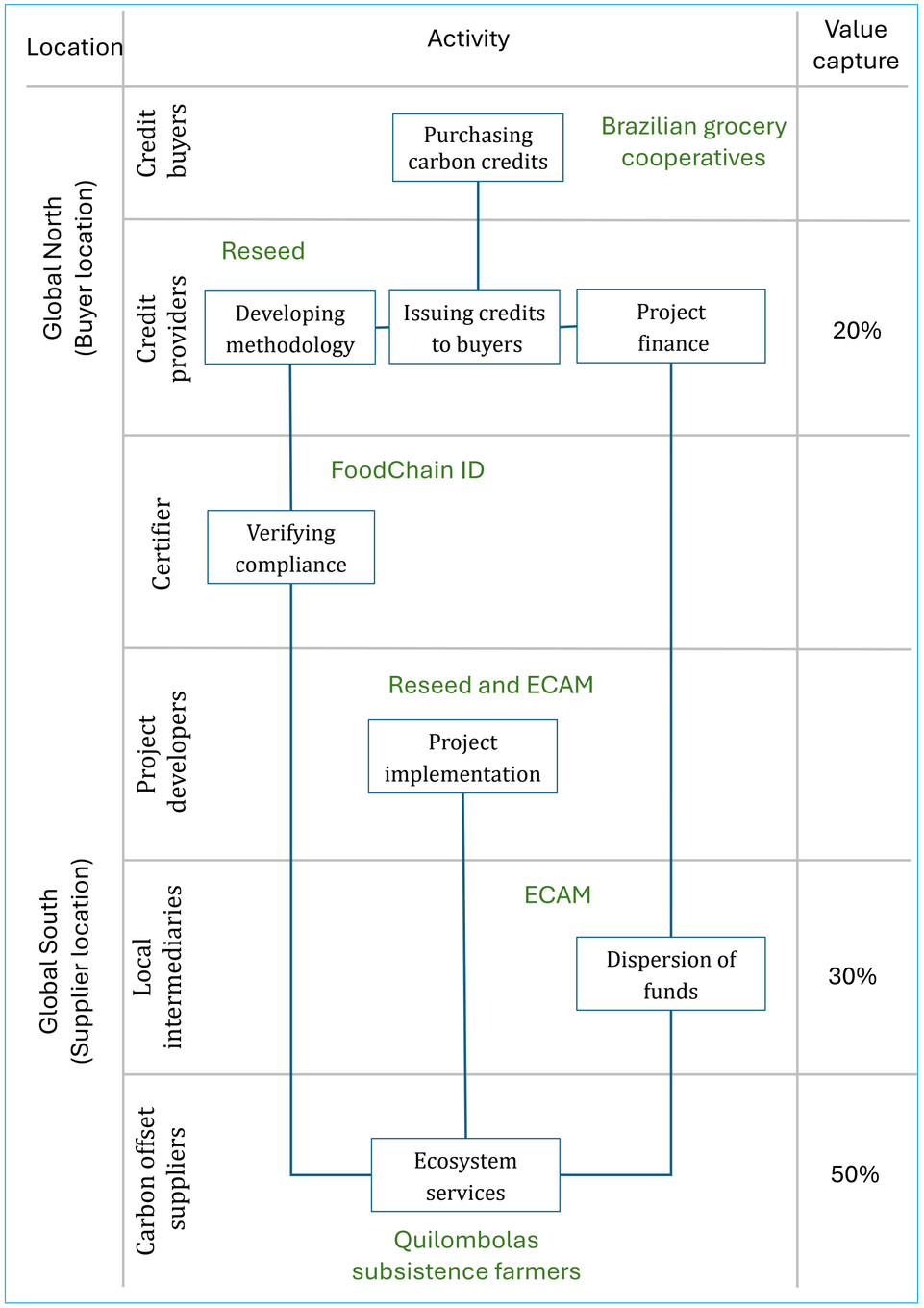
Value propositions

	Jinotega & Matagalpa Chain (Nicaragua)	Quilombola Social Carbon (Brazil)
Type of credit	Carbon removal unit (CRU)	Tons CO2 Equivalents Conserved (TEC)
Ecosystem service	Carbon sequestration (removal)	Carbon conservation (and sequestration in the future)
Origin of the methodology	Developed by Acorn with Plan Vivo	Developed by ReSeed,
Verification	AENOR & SCS Global Services	Food Chain
Buyers	Microsoft, Lavazza, others	Brazilian supermarket cooperatives, food brands, individuals
Land tenure	Required	Not Required
Smallholder beneficiaries (suppliers)	8.957 Farmers	10.321 Households

Jinotega & Matagalpa Project Value Chain



Quilombola Project Value Chain



Monetary benefits

	Jinotega & Matagalpa Chain (Nicaragua)	Quilombolas Social Carbon (Brazil)
Payment/ compensation	Individual, per farmer	Per community
Payment frequency	Annual (expected between year 3 and 10)	Annual
Timeframe for first payment	3-5 years (once the carbon has been removed)	Immediate (once the project has been certified and sold).
Share for farmers	80% (10-10-80)	50% (30-20-50)
Project duration:	14 years (max for payments)	20 years (fixed)
Minium price	$20 per credit	$20 per credit
Actual price	2021 to 2023 = €33 2024 = €40	$20 per credit
Payment	€112 to €134 (2021 to 2023) (annual income increase of 10% to 20%)	$8.4m annually over five years (projected) 89% increase in income (projected)

Co-benefits

Co-Benefit Category	Jinotega & Matagalpa (Nicaragua)	Quilombolas (Brazil)
Soil health and water retention	**YES** Improved soil organic matter and decreased water evaporation from shade (climate resilience)	**YES** Maintaining forest improves local watershed stability and dynamic regeneration (sustainability)
Increased crop yields	**YES**	In the future
Livelihood Diversification	**YES** Carbon payments provide an additional income source; diversified farming	**YES** New income stream
Skills development	**YES** Capacity building program for agroforestry practices; Online "The Carbon Farming Academy"	**YES** Community training on regenerative practices ands conservation methods
Price Premiums	**MAYBE** Potential for price premiums on mitigation-enhancing coffee	N/A
Additional services	N/A	**YES** Legal (regularizing land tenure), financial, technological

Key Issues/challenges with VCMs

Limited bargaining power
Smallholders struggle to access VCMs directly due to intermediary control and imperfect competition.

Complex structure

Certification bodies and buyers hold significant influence, limiting farmers' control over project terms.

Lack of Transparency
Carbon credit pricing and benefit distribution are often unclear, leading to confusion and sometimes distrust.

Governance Gaps
Current governance structures prioritize environmental metrics over economic benefits for farmers.

Financial issues
Upfront costs, price volatility and delayed payments

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Summary

1. **Do VCMs provide a window of opportunity for smallholders in the Global South**?
   - Both financial and non-financial benefits (co-benefits)
   - Co-benefits may sometime be at least as important

2. **How does the organization of VCM markets affect the nature and the extent of the benefits that accrue to farmers?**
   - Complex structures and power imbalances
   - Governance gaps (monetizing co-benefits) and coordination

3. **How can the governance be improved to maximize farmer benefits?**
   Next slide:
   - Transparency
   - Empowerment
   - Governance

How to improve smallholder benefits?

1. Fair & Transparent Compensation

- Carbon payments should reflect labor, time, and resources invested.
- Farmers need clearer information on pricing and revenue-sharing mechanisms.

2. Strengthening Governance & Market Access

- Empower farmer-led initiatives.
- Simplify certification processes to lower entry barriers.

3. Supporting Co-Benefits & Resilience

- Recognize and monetize additional benefits (e.g., biodiversity).
- Improve technical support, microloans, and pre-financing options

4. Building Long-term Sustainability

- Create equitable partnerships between farmers, certification bodies and buyers
- Develop a feedback loop to ensure smallholder voices shape market structures.

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Overview of value chains:
Quilombolas Social Carbon Project (Brazil)

Value chain actor	Name	Location	Activities	Costs	% buyer value added
Credit buyers	Brazilian supermarket cooperatives, food brands, individuals	Brazil	• Purchase carbon credits generated by conservation activities in the Amazon, offsetting their emissions and supporting sustainable development.	$20 per credit	(100%)
Credit providers	ReSeed	United States (Topanga, California)	• Provides financing and support for the development of carbon credits, including the methodology and platform for tracking and trading credits.	$4	20%
Standard-setting organisations	FoodChain ID	United States (Fairfield, Iowa)	• Verifies the carbon credits and ensures transparency, credibility, and measurement of conservation impacts through third-party verification.	N/A [Fixed fee?]	
Project developers	ReSeed ECAM /	Brazil (Brasília)	• Develop and manage the carbon project, support conservation activities in the Quilombola communities, and facilitate market access for carbon credits.	N/A	
Local intermediaries	ECAM	Brazil (Brasília)	• Acts as the local partner, providing technical support, capacity-building, and helping to implement conservation activities in the Quilombola communities.	$6	30%
Carbon offset suppliers	Quilombolas subsistence farmers	Brazil (Curralinho, Macapá, Amapá province)	• Quilombola communities conserve traditional agricultural and forest practices, protecting carbon sinks and earning carbon credits for their conservation efforts.	$10 EUR 50,000 (collective funds)	50%