The Lab Webinar Series

Climate Finance for Sustainable Agriculture

April 13, 2021
Agenda

• Welcome Remarks
  • Jyotsna Puri Director, Division of Environment, Climate, Gender and Social Inclusion, International Fund for Agricultural Development (IFAD)

  The Lab’s Process and Impact
  • Daniela Chiriac, Senior Consultant, Climate Policy Initiative

• Blockchain Climate Risk Crop Insurance
  • Valerio Micale, Manager, Climate Policy Initiative

• Q&A Session

• Summary and Closing Remarks
  • Sebastien Subsol, Senior Climate Specialist, ECG – IFAD
The Lab’s Process and Impact
Sustainable investment is critical to tackle the key global challenges of the 21st century

Climate Change
Meeting the Paris Agreement goals and ramping up ambition in emissions reductions

Sustainable Development
Meeting the Sustainable Development Goals

Sustainable investment is critical to tackle the key global challenges of the 21st century.
Climate investment is increasing, but falls short of global needs

Range of investment needed each year in a 1.5°C scenario (IPCC)

- $1.6 Trillion
- $2 Trillion
- $3 Trillion
- $4 Trillion

Yearly Investment:

- 2012: $360 bn
- 2013: $342 bn
- 2014: $388 bn
- 2015: $472 bn
- 2016: $455 bn
- 2017: $608 bn
- 2018: $540 bn
- 2019: $608-622 bn

$0 to $500 Billion
Sustainable investment, particularly in developing countries, faces many barriers.
The Lab identifies, develops, and launches **innovative finance instruments that drive billions in private investment** to action on climate change and sustainable development.

- **49** instruments launched
- **70+** public and private Lab Member institutions
- **300+** supporting experts, nearly half from developing regions
The Lab brings together over 70 institutions to address the sustainable investment gap
$2.4+ bn mobilized by 49 instruments for climate action in developing countries

$370+ mn invested by Lab Member institutions

$2.0+ bn catalyzed in additional investment

Lab instruments have mobilized 200x what funders have invested in the Lab Secretariat
The Lab’s three ingredients to success

Public-Private Collaboration
Strengthened partnership between the public and private sectors builds capacity and knowledge to identify and deploy effective climate finance solutions.

Innovation & Transformative Solutions
Innovative, actionable, catalytic, and financially sustainable solutions reduce risks and barriers to investment in sustainable development.

Mobilizing Finance
Catalytic finance from Lab Members and the broader network enables piloting and implementation of transformative solutions.
How it works: An incubator for sustainable finance ideas

Phase 1

**Call for Ideas**
The Lab publicizes an open call for innovative sustainable investment solutions

**Selection**
Lab Members select the most promising ideas to take forward in each annual cycle

Phase 2 & 3

**Development**
Selected ideas benefit from 7 months of analysis, stress-testing, and guidance from experts and investors

**Endorsement & Launch**
Lab Members vote to endorse and launch the ideas for piloting

Phase 4

**Implementation**
The ideas move into action and fundraising to launch pilots, with continued support from the Lab network
Lab ideas meet four key selection criteria

**Actionable**
Identifies:
1. The type of entity(ies) that could implement it.
2. The pathway towards implementation, including the timeframe, activities, and key milestones.
3. Possible challenges to implementation and related management strategies.

**Catalytic**
Demonstrates potential to:
1. Mobilize private climate capital within a sizeable market.
2. Be scaled up or replicated in other contexts.
3. Achieve socioeconomic, development, and environmental impacts.

**Innovative**
Demonstrates the ability to address, directly or indirectly, barriers to private climate finance that:
1. Have not yet been addressed OR
2. That will be addressed more effectively compared to other instruments in the market.

**Financially Sustainable**
Identifies:
1. A strategy to phase out public financial support, thereby achieving market viability.
2. Possible challenges to achieving its intended objectives and related management strategies.
Since 2014, the Lab has launched 49 solutions that tackle investment barriers in the most critical sectors and regions for action on climate change.

Number of Lab instruments:

- **Renewable Energy**: 21
- **Sustainable Cities**: 19
- **Climate Risk**: 15
- **Agriculture, Land Use, Forestry**: 15
- **Energy Efficiency**: 9
- **Energy Access**: 9
- **Asia**: 22
- **Africa**: 20
- **Latin America**: 18
- **Global**: 7
Global Reach + Regional Expertise


Established in 2016. Focus is finance solutions to drive funds for the country’s national climate priorities.

Launched in 2015. Focus is finance infrastructure for renewable energy and other channels for green growth.

Launched in 2020. Tailored to address regional sector priorities and finance structures.
In 2021, the Lab will develop mitigation and adaptation ideas in sectors and geographies critical for climate action and a sustainable recovery.

**Sustainable Cities**
Transformative ideas in developing & emerging economies

**Sustainable Food Systems**
Improving sustainability throughout the food system

**Sustainable Energy Access**
Deployment of renewable energy for productive use

- India
- Brazil
- Southern Africa
The Lab has developed 15 innovative financial instruments that **catalyze greater investment into the sustainable agriculture sector** targeting smallholder farmers who are the most vulnerable to the impacts of climate change.

Key barriers to investments in smallholders’ climate-resilient agriculture include high risk associated with the sector, smallholders’ **low bankability**, **limited access to knowledge and technology**, restricted infrastructure and access to markets.
Blockchain Climate Risk Crop Insurance

Proposed by

acreAFRICA etherisc Sprout
In developing countries, as many as 270 million smallholder farmers are underinsured. Despite threats of increasing climate risk and decreasing food security, only 20% of smallholder farmers in developing countries have access to agricultural insurance coverage.

In Sub Saharan Africa, only 3% of farmers have any type of crop insurance. The crop insurance market is inadequate and ineffective, and the process is expensive, slow, and opaque.

Climate vulnerability of crops is increasing, posing a significant threat to food security. On average, smallholder farmers with landholdings under 5 hectares are responsible for 50% of global food production and 58% of rural households depend on subsistence production.

Smallholders have not yet fully developed the capacity to respond to climate change, and agricultural techniques and infrastructure remain antiquated. Innovative technologies are rarely implemented, increasing vulnerability to climate change.
Solution: Blockchain Climate Risk Crop Insurance

Aims to increase smallholder farmers’ resilience to climate change through offering a more accessible index insurance product at scale.

Blockchain Index Insurance

- Reduced conflicts of interest, improved trust
- No need for middlemen
- Reduced claims processing costs
- Increased transparency
- Increased speed, reliability, and cost-effectiveness of direct pay-outs
Instrument Mechanics

Pilot
Instrument Mechanics

Scale up
## Barriers Addressed

<table>
<thead>
<tr>
<th>Objective</th>
<th>Address the uncertainty of financial returns associated with crop production due to climate change (e.g. droughts and floods) by increasing access to weather index insurance</th>
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<tr>
<td><strong>Barriers</strong></td>
<td><strong>Solutions</strong></td>
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<tr>
<td>Limited demand of weather index insurance</td>
<td>Smart contracts and blockchain reduces claim cycles and transaction costs</td>
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<td>Limited supply of climate risk transfer tools</td>
<td>Standardized platform on blockchain enables the offering of index insurance at scale</td>
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<td>Lack of trust between insurer and farmers</td>
<td>Index insurance avoids moral hazard and higher effectiveness of payments increases trust</td>
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Access to insure improves resilience of crops in remote locations

- **Benefits to insured farmers:** reliable income, financial safety net, improved crop yields, more access to credit, increased resilience, female empowerment.

- Improve the financial resilience to climate risk for **300,000 smallholder farmers** across Kenya over the first 2 years of the pilot.

- **Gender equality:** 60% of smallholder farmers are women
Implementation Pathway

Blockchain technology and market expertise are key to success and scalability …

Pre-Pilot (3 seasons)
- MVP testing (Bima Pima)
- 12 counties in Kenya

Strategic Partnerships
- Insurance company
- Mobile-payments
- Weather providers

Capital raising: Grants
- Integration assessment
- Automatization
- Outreach

Pilot (6 seasons)
- Product roll-out
- 46 counties in Kenya

Scale-up
- International expansion

… and help farmers transition into a digital supply chain.
Target Market for Scale-up

Kenya was selected as the pilot location based on its conducive environment for insurance products, and existing strong partnerships on the ground.

Replication Countries

Criteria for target markets
- Climate Vulnerability
- Conducive Environment
- Market size

Priority targets
- Sub-Saharan Africa: Kenya, Mali, Senegal, Rwanda, Burkina Faso, Uganda

Secondary targets
- South Asia: India, Nepal, Bangladesh
- South East-Asia: Thailand, Philippines, Cambodia
Financial Sustainability: Pathway to Commercialization

Strategy to commercialization focuses on grants to prove concept and support demand, and venture and growth capital to expand operations.

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<th>Initial structure</th>
<th>Intermediate structure</th>
<th>Commercial structure</th>
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<td>Grant</td>
<td>Venture capital</td>
<td>Growth capital</td>
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<td>Founder equity</td>
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Initial grant and in-kind - used to prove concept targeted at a small group of farmers.

Venture capital to expand operations in new markets. If needed, initial grant supporting demand.

Running operations on commercial basis. Venture capital targeting further expansion.
Milestones

2021

- **Pilot:** 1st season in Kenya
- **Grant:** Decentralized Insurance Foundation
- **Legal entity:** Etherisc Impact B.V was created

2020

- **Grants:** Ethereum Foundation, Chainlink (decentralized oracle network)
- Feasibility study
- **Pre-pilot:** 2nd and 3rd seasons
- Joint Venture and MoU between implementation partners

2019

- **Pre-pilot:** 1st season in Kenya with MVP Bima Pima
- **Partnerships:** M-pesa (mobile-payments), UAP (insurance company)
- **Endorsement:** The Lab
Next Steps

✓ Pilot roll-out for 6 seasons
✓ Technology platform improvements
✓ Fundraising for risk pool and business development

Capital Needs

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<th>Investor type</th>
<th>Amount (USD)</th>
<th>Role of capital</th>
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<tr>
<td>Concessional equity</td>
<td>800k</td>
<td>Business development &amp; upfront investment including mobile system integration</td>
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<tr>
<td>Public concessional debt / Guarantee</td>
<td>5 million</td>
<td>Liquidity facility for risk pool</td>
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