



*Driving Sustainable Investment*

The Lab Webinar Series

# Climate Finance for Sustainable Agriculture

April 13, 2021



# Agenda

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- **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

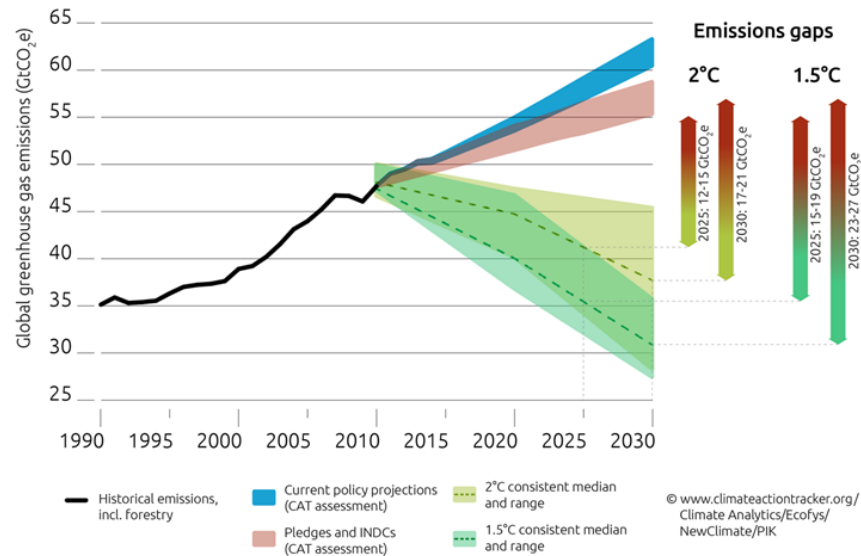
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# The Lab's Process and Impact

# 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

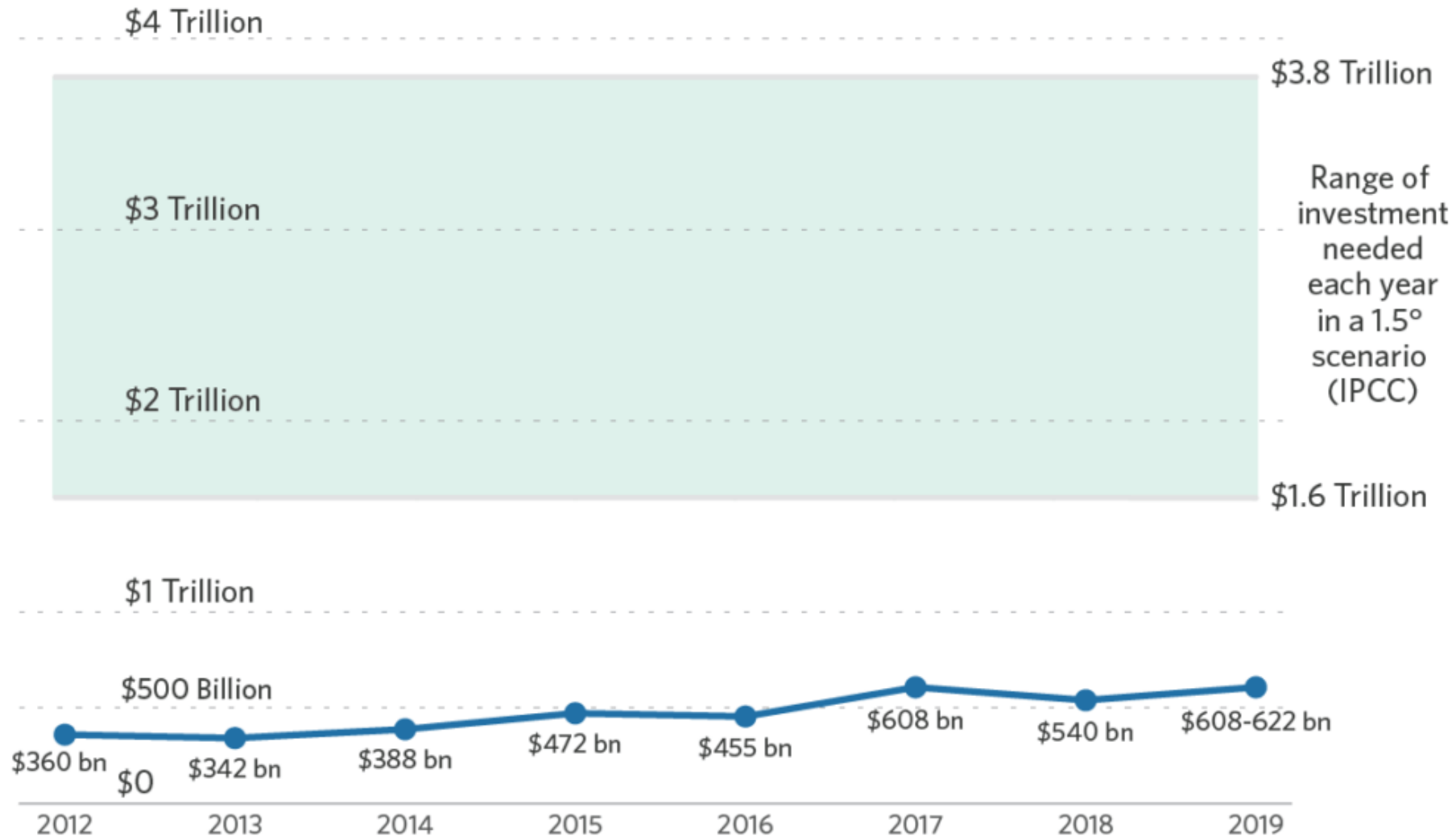


## Sustainable Development

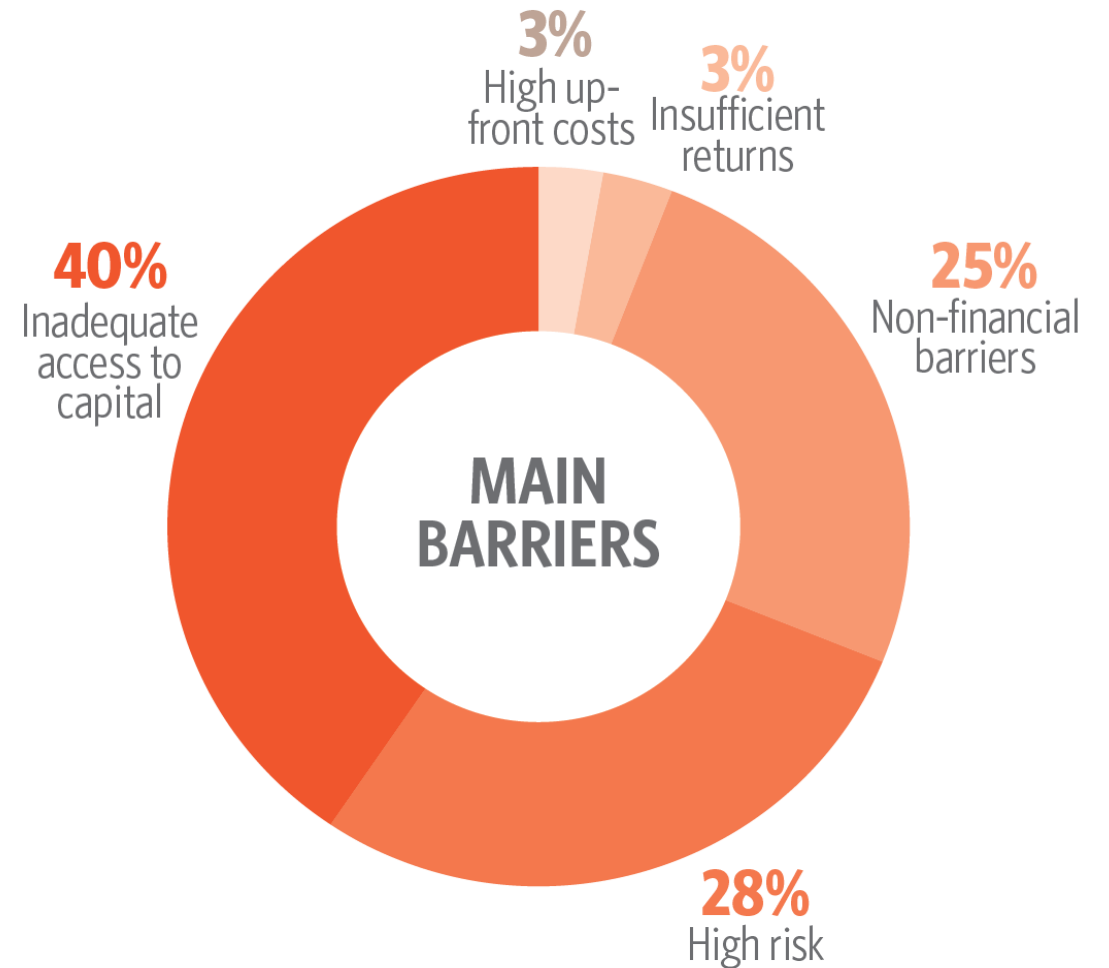
Meeting the Sustainable Development Goals



# Climate investment is increasing, but falls short of global needs



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.

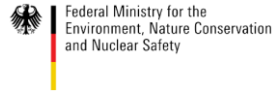
**49** instruments launched

**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

## FUNDERS



## MEMBERS



## PAST FUNDERS





**\$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

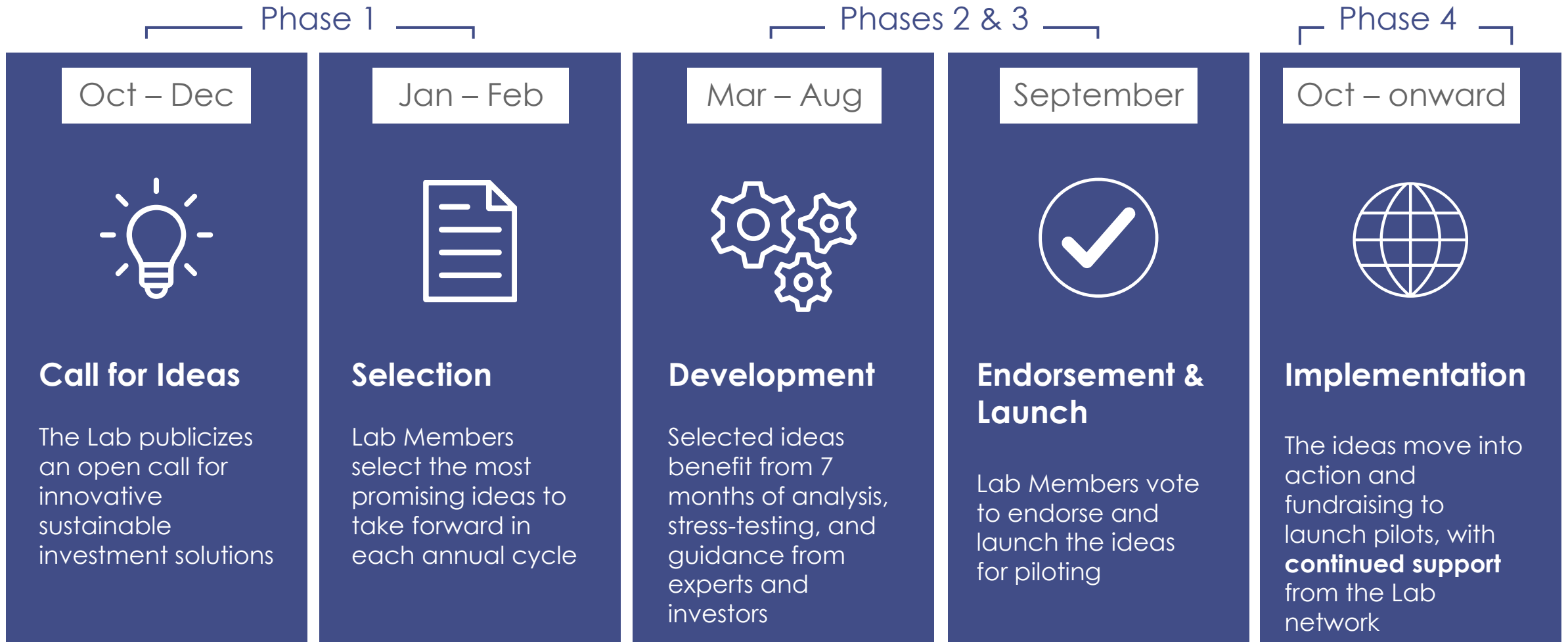
Innovative, actionable, catalytic, and financially sustainable solutions reduce risks and barriers to investment in sustainable development.



## 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



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# 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.

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# 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**

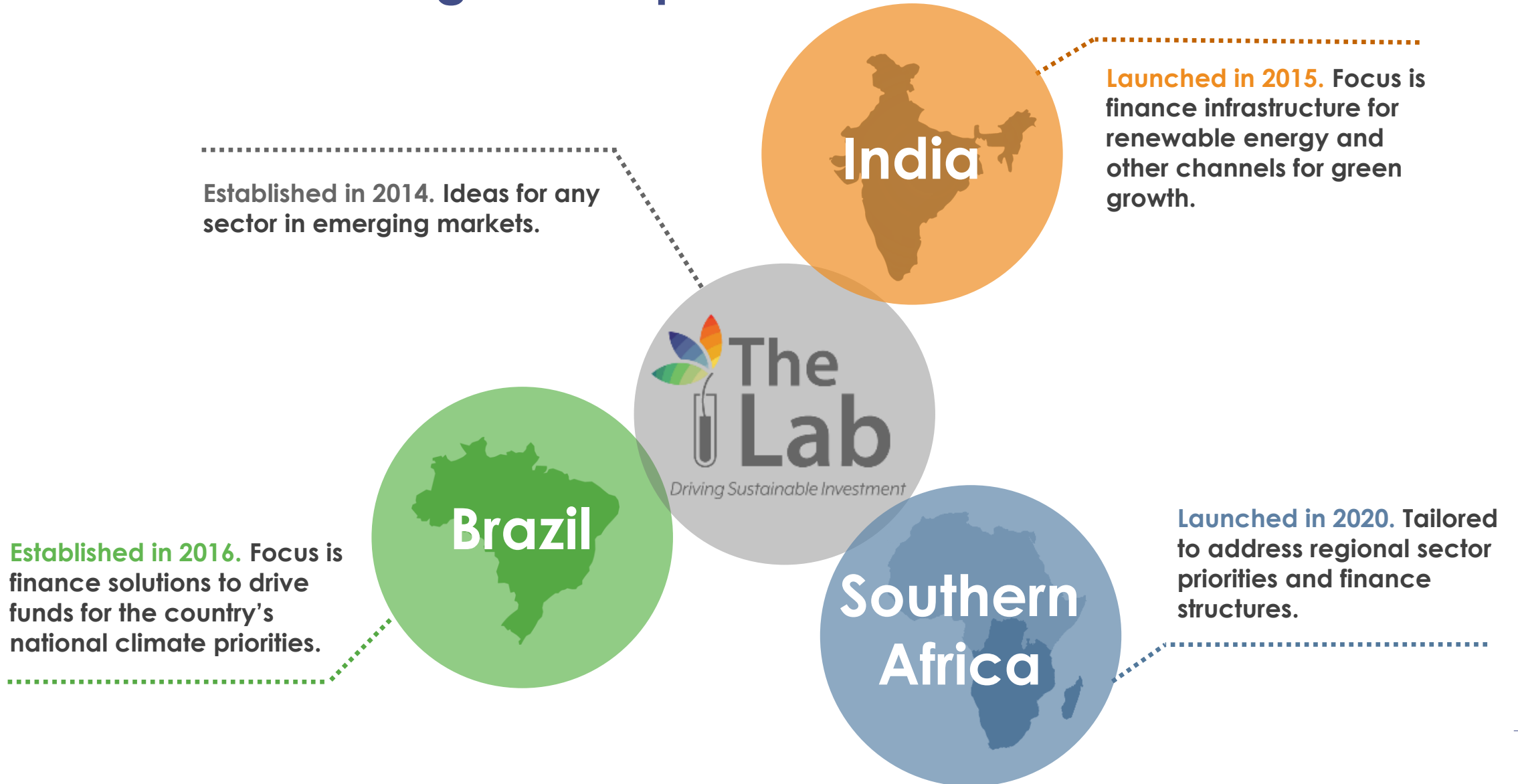


Latin America  
**18**



Global  
**7**

# Global Reach + Regional Expertise



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



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## The Sustainable Agriculture Lab Stream

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



ETHERISC



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## Context



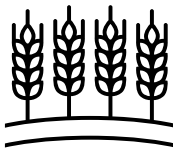
### **In developing countries, as many as 270 million smallholder farmers are underinsured**

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.

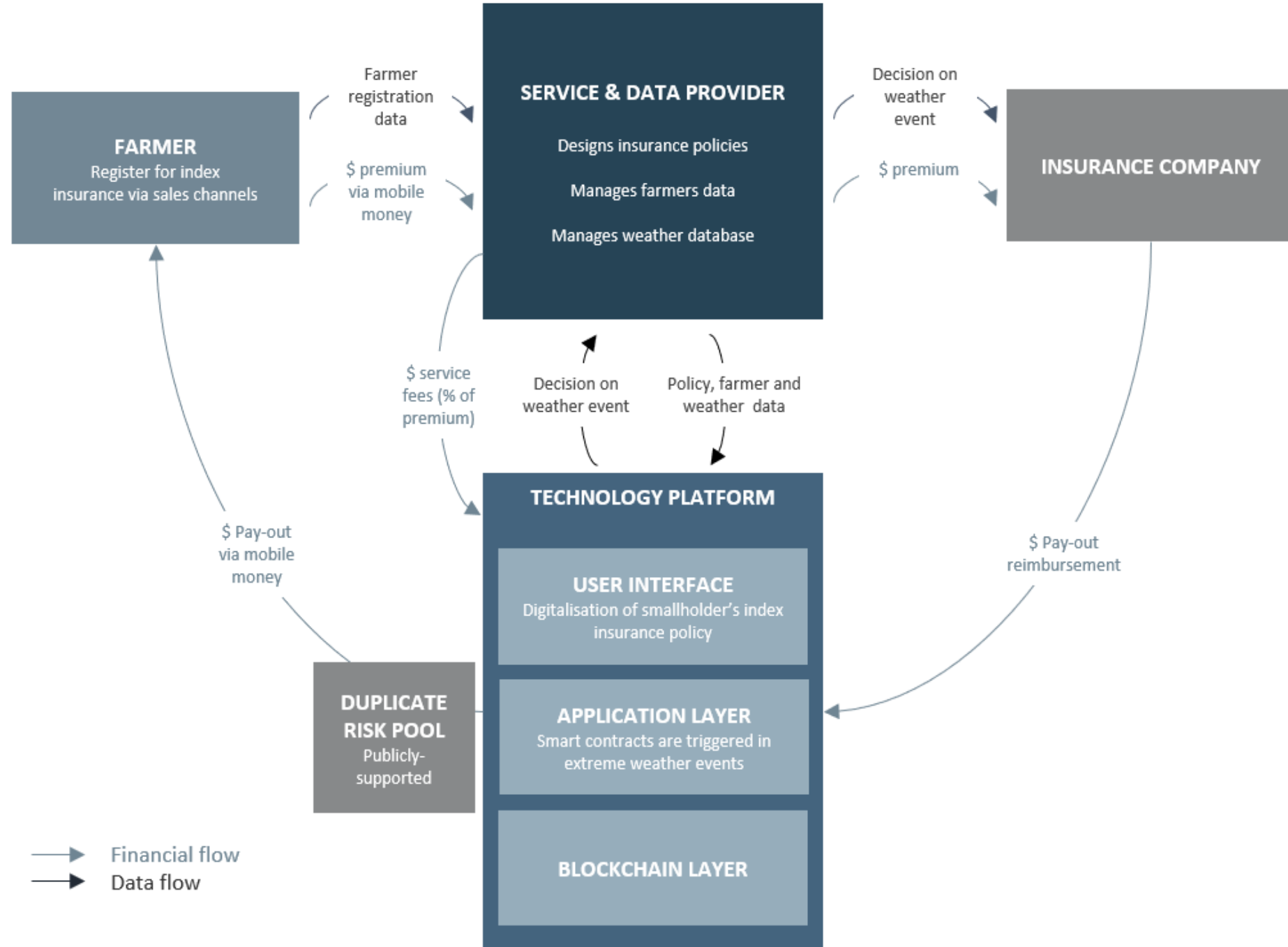


### Blockchain Index Insurance

- ✓ 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

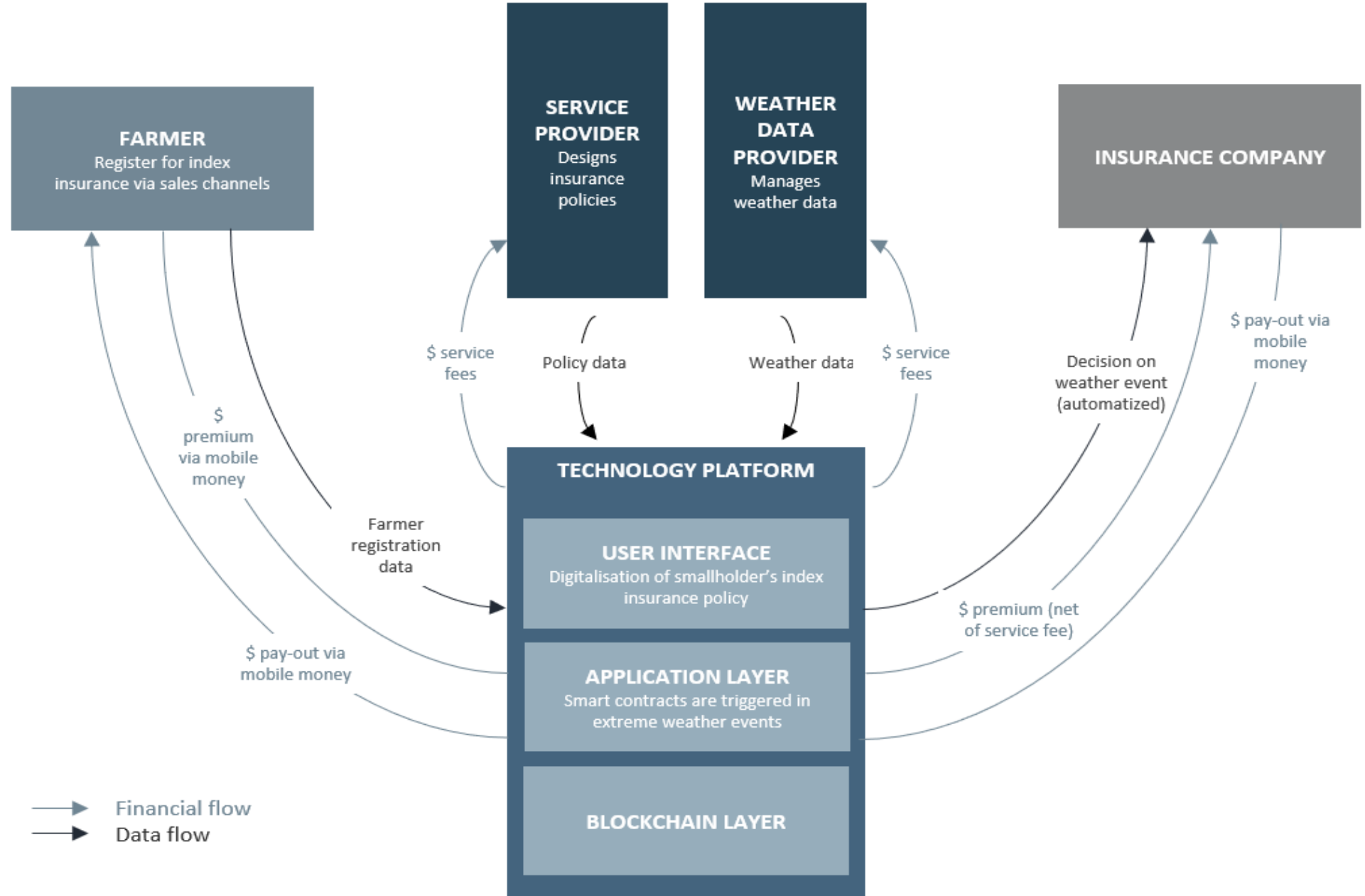
# Instrument Mechanics

## Pilot



# Instrument Mechanics

## Scale up



## Barriers Addressed

### Objective

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

### Barriers

Limited demand of weather index insurance

Limited supply of climate risk transfer tools

Lack of trust between insurer and farmers

### Solutions

Smart contracts and blockchain reduces claim cycles and transaction costs

Standardized platform on blockchain enables the offering of index insurance at scale

Index insurance avoids moral hazard and higher effectiveness of payments increases trust

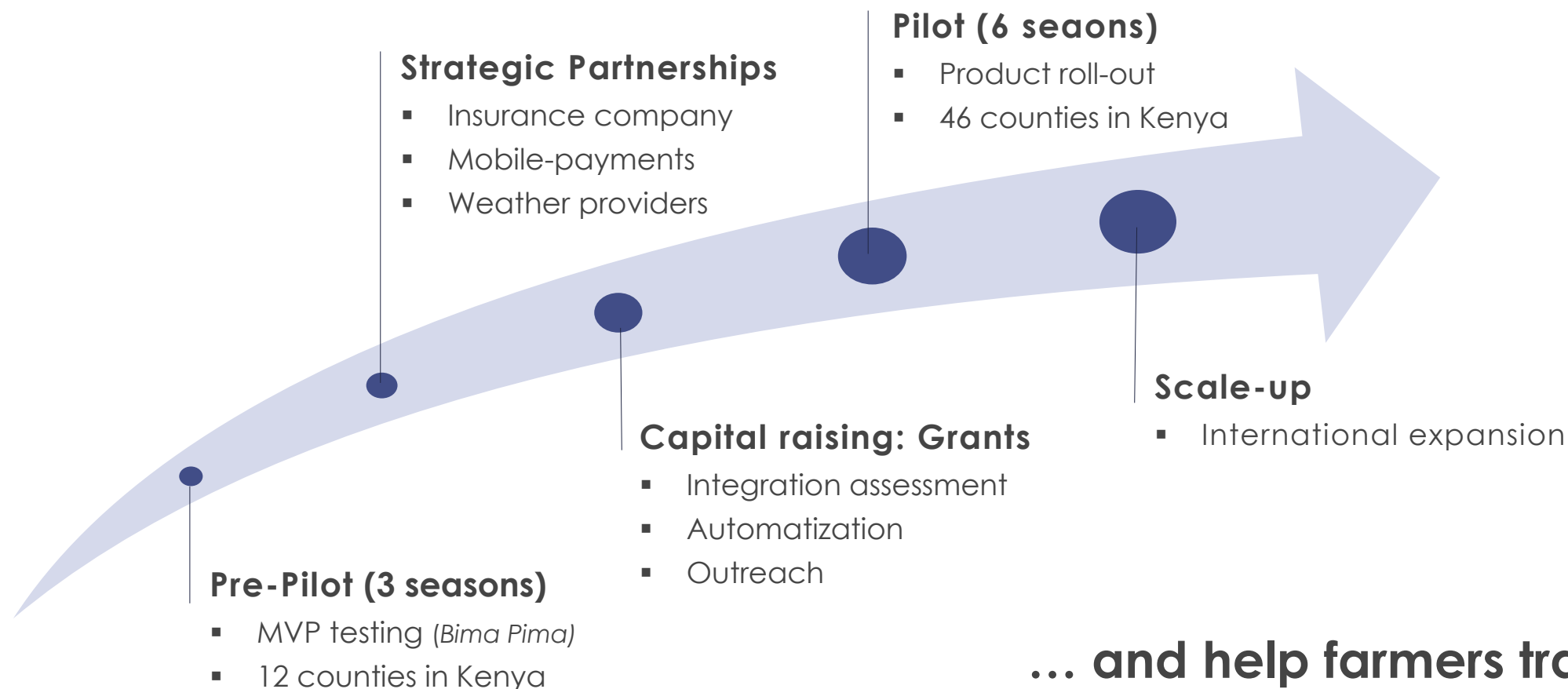
## Access to insure improves resilience of crops in remote locations



- **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 ...

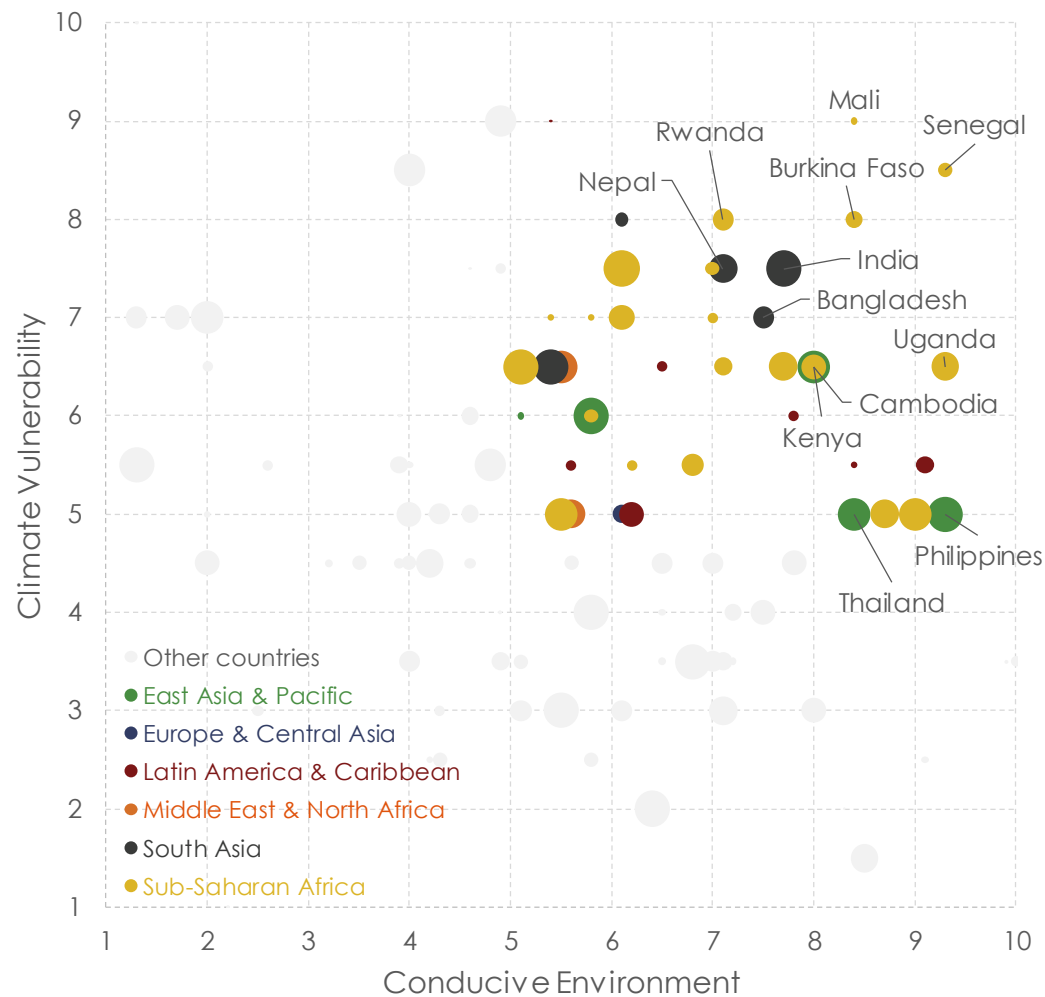


... and help farmers transition into a digital supply chain.



# 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

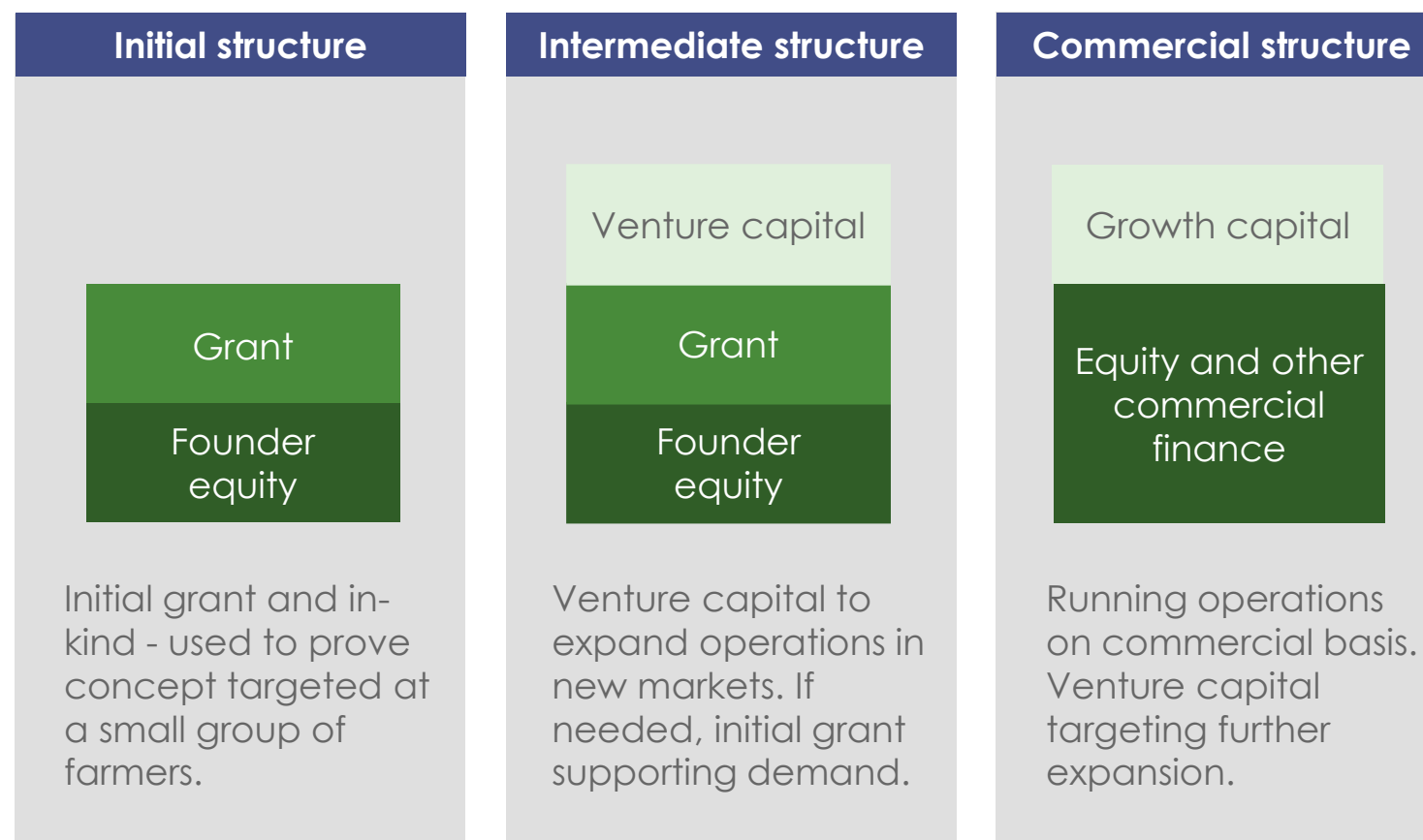
- Sub-Saharan Africa: Kenya, Mali, Senegal, Rwanda, Burkina Faso, Uganda

### 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.



# 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)
- **Endorsment:** **The Lab**



## Next Steps

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

## Capital Needs

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

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# Q&A





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