



# Caatinga Bank

## Investment Thesis

Provide an innovative, lower-risk opportunity for investors to strengthen the competitiveness of familiar agricultural farming in the Caatinga Biome (semi-arid region in Brazil) and alleviate families' financial and social vulnerability. Caatinga Bank wants to enhance sustainable farming through **working capital loans**, in the form of seeds, operational resources, technical knowledge and cash. Additionally, the bank will serve as a **broker** intermediating the **negotiation of agricultural future contracts**, which reduces risks and generates additional revenue streams.

## The Challenge

In the semi-arid region of Brazil, small-scale family farmers confront substantial obstacles. **Severe hunger** affects **21% of the population**, compounded by **harsh environmental conditions**, with 85% of the region experiencing moderate desertification. Consequently, productivity remains low, with 68% of farmers living at subsistence levels. Each year, the situation deteriorates further due to **limited access to financial solutions** tailored to their needs; only **13%** of families have **access to credit**. Moreover, **technical assistance is scarce**, with a mere 7% receiving any support. From the **perspective of small farmers**, several factors exacerbate these problems:

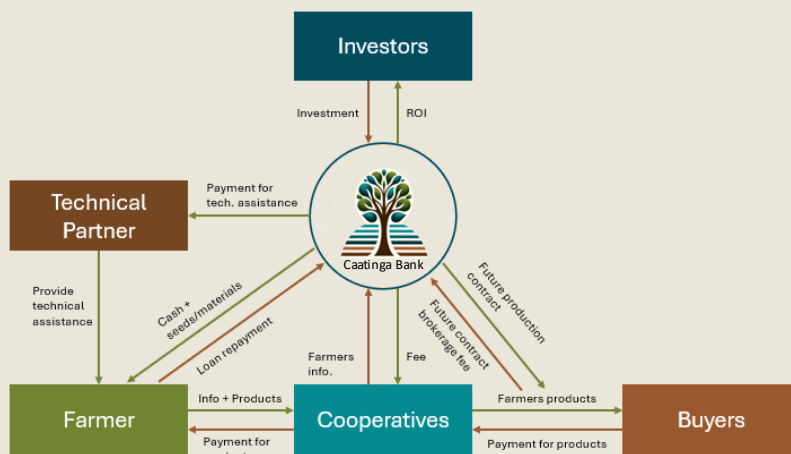
- **Low returns on crops** - revenue of approx. 9k USD per year
  - **Sales and price instability**
  - **Low education levels** (42% are illiterate), which hinders the formulation of projects to request loans
- From **banks**, extending credit to these farmers is:
- **Risky** due to insufficient information, low crop returns, and the farmer's risk of not investing resources in the most effective manner
  - **Logistically challenging** because farmers are geographically dispersed and have limited access to traditional banks

## Financial Details

Financial Instruments	Working capital loan + Agriculture future contracts
Investment size	\$11.2k per farmer Target: +68.2k Farmers (5% of the addressable market) Approx. <b>\$12M</b> fund on Y1
Timeline loan amortization	3 years
Interest rate	<b>13% p.a.</b>
Other fees	Brokerage fee: <b>5%</b> over future agricultural contract
	Administrative fees: To pay technical support with 1 year grace period
Covenants and collaterals	Future contracts to be used as loan collateral
	Participate in the technical support program

## Operating Model

Caatinga Bank (CB) provides **working capital loans in the form of seeds, resources, technical knowledge, and cash** to family farmers in the northeast of Brazil. To ensure capillarity, **CB partners with agricultural cooperatives** to gather information about the farmers and guarantee a secure point of contact with them. Technical companies, such as *Embrapa*, provide training and resources for farmers to achieve sustainable and efficient harvests while Caatinga Bank provides cash. To **diminish the default risk**, CB uses in-house brokers to secure the **provision of future agricultural contracts** for its farmers.



## Innovation and benefits structure

- **Farmers** – Access to technical training, materials/seeds, and credit, increasing productivity and maximizing returns by 50% (benchmark: *Embrapa*). Also, experience enhanced security/predictability in sales through future contracts.
- **Cooperatives** – Assist in reaching out to farmers and providing information to CB for assessing farmers' credit. They aggregate the production of farmers and sign future contracts with buyers, earning 20% of the future contract's broker fee.
- **Buyers** – Improve cost predictability and ensure a larger purchasing volume with less complexity.
- **Technical partners** – Access a larger number of farmers through the CB network, transferring knowledge to farmers that aids in increasing productivity, as well as environmental preservation and soil degradation reduction.
- **Caatinga Bank and Investors** – Returns associated with interest paid by farmers on loans (13%), fees related to technical support, and fees associated with facilitating future contracts (5% of the contract value). Additionally, contributes to the socio-environmental impact in one of Brazil's poorest regions.

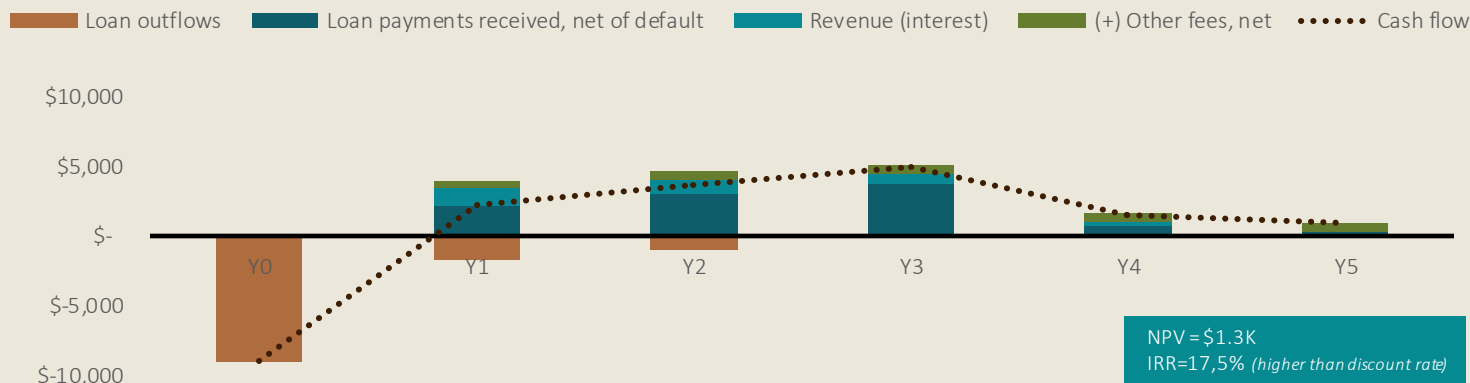
## Target Geography

The Caatinga Bank has significant potential throughout the Northeast semi-arid region of Brazil, encompassing **1.4 million** small family farms (an average of 4 hectares per farm).

Initially, a pilot program would be implemented in the cities of Petrolina and Juazeiro, which collectively host 14,000 establishments. Of these farmers, 75% lack access to credit. The pilot's target is to reach 1,073 farmers, 10% of those who don't have access to credit. As the bank evolves, the goal would be to extend assistance to at least 5% of small family farms in semi-arid, impacting 68,200 establishments.



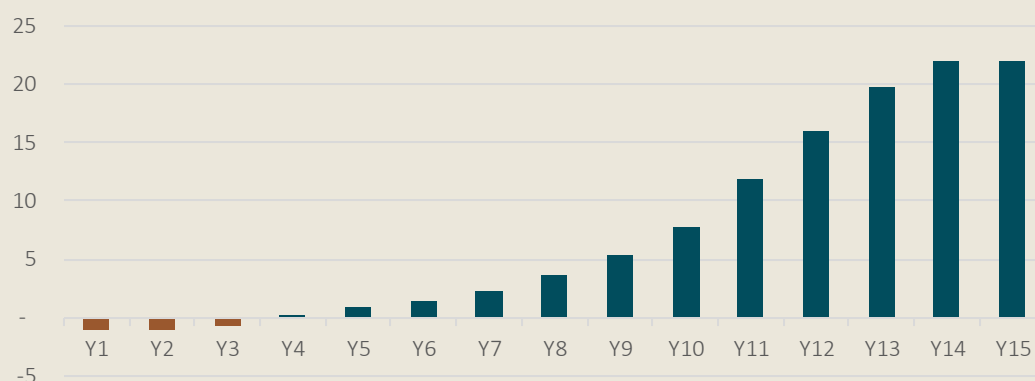
# Unit Economics - Cash flow (USD)



## Assumptions:

- 3 years of loan outflows to cover Farmer's working capital need - Improvement in Farmer's operation reduces the need for capital
- The total lifecycle of the initiative is 5 years, given that: each outflow requires payments to happen on the following 3 years and last outflow happens on Y2.
- Default rate of 9,2% (conservative benchmark aligned with sector and geography)
- Discount rate (risk free rate) of 11,25% (SELIC)

# Net profit Year on Year (USD 000')



	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15
Profit/Revenues	-43%	-18,6%	-7,1%	0,4%	4,3%	5,6%	6,6%	7,4%	7,9%	8,3%	10,4%	12,4%	14,4%	15,5%	15,5%
Revenues	2,1	5,0	8,6	12,9	18,7	25,8	35,6	49,2	67,9	93,8	114,7	129,1	137,6	142,1	142,1
Operating costs	3,0	5,9	9,2	12,8	17,9	24,3	33,3	45,6	62,5	86,0	102,8	113,1	117,8	120,1	120,1

## Assumptions:

### 1 - Revenue:

- Interest of the loans + fees, spread out for 5 years, considering the lifecycle of the program
- # farmers reached: ramp-up of 38% CAGR in # of new farmers until year 10 - **totalizing 68,000 farmers**. After 10 years, reaches a steady state of # farmers in the program

### 2 - Operating costs:

- Yield paid to Caatinga Bank's investors: 14% (in line with expected returns of big banks in Brazil) - **1,75% p.p. higher than risk free interest rate**
- Fees paid to cooperatives: 20% of future contract's brokerage fee
- Cost of technical partner: \$40/farmer on first year and \$10/farmer in years 2 to 5
- Other operating costs: salaries, office administration, legal and compliance fees, taxes

## Expected Results



**15x** increase in farmers profit



**22%** of degraded land recovered



**+50%** increase in farms productivity



**16%** Caatinga Bank net margin

## Impact Assessment and Risks

**Impact thesis:** by offering tailor-made credit and access to professional support to small farmers in the Brazilian Caatinga, we will increase the economic productivity and social inclusion not only of the farmers, but also of the entire region. By tying the credit given with sustainable practices, we also aim to restore the Caatinga Biome.

WHAT SDG Goals	WHO Stakeholders impacted	ABC GOAL	CONTRIBUTION Direct contribution of Caatinga Bank	RISKS AND MITIGATION PLAN
<p><b>[1.4] Economic resources:</b> increase access to credit and professionalizing services.</p>	Small farmers in the Brazilian Caatinga  <b>KPI:</b> % of small farmers in Caatinga who have access to credit and professional support	C	<b>KPI:</b> # of farmers who have acquired our credit	<b>RISK:</b> Farmers not repaying the loan <b>KPI:</b> # of farmers who default <b>MITIGATION:</b> assume a conservative estimation on default for the financial model; as the program grows, we'll reiterate our credit risk analysis  <b>RISK:</b> Not using the credit for farming purposes <b>KPI:</b> % credit given that is not being invested in production but for personal use <b>MITIGATION:</b> Cooperatives making regular visits to farmers; tying credit to sources of investment other than cash (e.g. seeds)
<p><b>[8.3] Growth of SMEs:</b> increase productive activities and formalization</p>	Small farmers in the Brazilian Caatinga  <b>KPI:</b> economic growth in the Caatinga region		<b>KPI:</b> # of new commercial farms created after receiving our credit	<b>RISK:</b> Farmers not selling all crops produced <b>KPI:</b> % of output of client farmers that were unsold <b>MITIGATION:</b> future production contracts
<p><b>[10.2] Social inclusion:</b> promote economic and social inclusion</p>	Small farmers in the Brazilian Caatinga, especially those who today live through subsistence agriculture  <b>KPI:</b> employment among population in Caatinga		<b>KPI:</b> increase of income per capita of clients	<b>RISK:</b> Difficulty to reach out farmers <b>KPI:</b> # of farmers reached vs forecasted # of farmers <b>MITIGATION:</b> Work closely with cooperatives to gain access to farmers' network
<p><b>[12.2] Use of natural resources:</b> increase efficient use of natural resources</p>	Caatinga Biome  <b>KPI:</b> carbon emissions in Caatinga		<b>KPI:</b> total carbon captured in client's farms after adopting sustainable practices  <b>KPI:</b> % of farmers who use 100% renewable energy in their production	<b>RISK:</b> Lack of data <b>KPI:</b> # farms without carbon emission data
<p><b>[15.3] Combat desertification:</b> restore degraded land</p>	Caatinga Biome  <b>KPI:</b> acres of land restored		<b>KPI:</b> % of land that is degradation-neutral or regenerated from clients	<b>RISK:</b> Farmers not adhere to technical program <b>KPI:</b> % of farmers not applying sustainable agricultural techniques <b>MITIGATION:</b> contract covenant to ensure farmers participating in the technical support program