



# BeeBank & Brokerage (BBB)

Ensuring beekeepers have working capital, contracts, and resources needed for sustainable pollination

## Investment Thesis

Provide an innovative, lower-risk opportunity for investors to build up the pollination industry and sustainably feed the future. BeeBank & Brokerage's model empowers beekeepers with the pollination contracts, working capital, and resources to provide farmers with healthy bees for crop pollination.

*"Of the 100 crop species that provide 90 % of the world's food, over 70 are pollinated by bees."* Achim Steiner - Executive Director, UN Environment Programme (UNEP)

## Problem Statement & Opportunity

*Honeybees are dying, putting global food supply at risk. A financing gap in agriculture has left beekeepers without the capital needed to build and maintain healthy hives.*

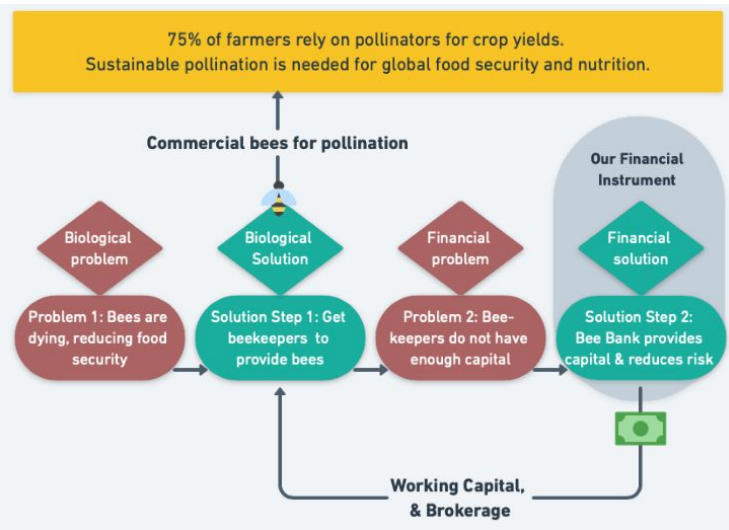
The pollination industry faces the challenge of disappearing bees as a result of anthropogenic environmental degradation, including climate change and pollution. Meanwhile, the agricultural industry increasingly relies on commercial beekeepers for pollination services and pollination brokers for contracting and logistics. Many beekeepers, however, **don't have access to the capital needed** to keep their hives alive.

Why is this important?

- **1/3 of our global food supply is dependent on bees.** Bees provide pollination for **\$16 billion worth of US** food supply. However, beekeepers have experienced a 40% average hive loss in the past 30 years;
- Beekeeping operations currently carry high financial risks, due to potential hive failure, and the need for expert knowledge and upfront capital; financial innovation presents an **opportunity for investment into a niche market with high growth potential**;
- In the US, crop pollination accounts for 60 times the size of the market for honey production. There is an underestimation of bees' importance in maintaining and growing food systems and, thus, a national and global financing gap;
- Investing in nature is **critical for post-COVID19 agricultural recovery**, which has uncovered the fragility of global food systems and infrastructure. Currently, environmentally harmful subsidies outweigh finance mobilized to promote and preserve biodiversity and natural capital at least ten-fold.

We present an opportunity to **reduce the financial risk of investing in the beekeeping industry, close the pollination financing gap, and promote sustainable agricultural yields** through BeeBank & Brokerage. BBB initially targets the US, before scaling to other major economies with declines in pollination. Sustainable pollination will lead to better yields and the efficient use of natural resources.

## Solution Overview



## Operating Model

BeeBank & Brokerage operates as a loan brokerage that provides working capital loans to sideline beekeepers, enabling them to scale operations through the purchase of new hives, equipment, disease treatments, and other resources to keep hives healthy. BBB uses in-house brokers to guarantee the provision of pollination contracts to its beekeeper clients, and pollination and logistics to farmers. The income beekeepers receive from healthy, high-quality hives de-risks BBB's lending, whilst benefiting crop yields.

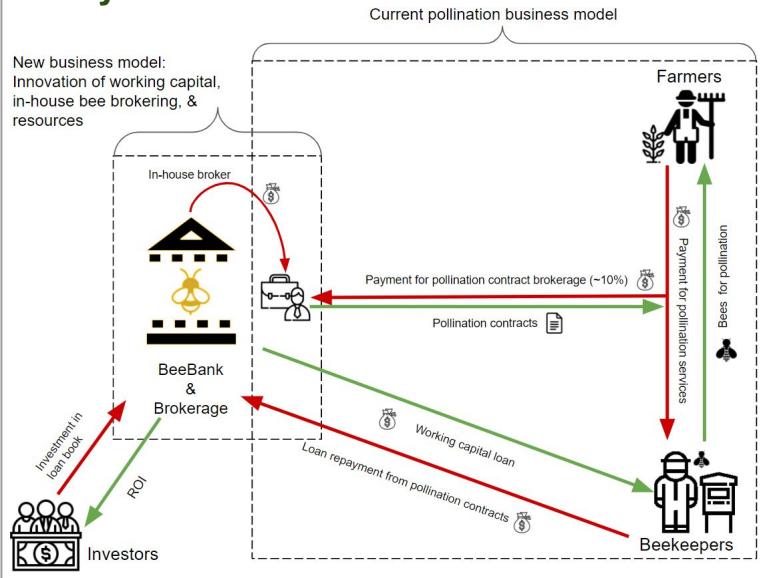
## Financial Innovation through Beeconomics

BeeBank & Brokerage is a unique loan brokerage that offers instruments tailored to the unique needs of beekeepers and farmers in a market that has high variability and requires thorough, tailored credit assessment on the basis of future income potential.

By integrating **working capital loans** with **in-house pollination contract brokering**, BBB provides:

1. **Beekeepers with competitive pollination contracts**, logistical assistance, and best practices which leads to **more guaranteed income from healthier hives**, and **de-risks BBB's lending**;
2. **Farmers with a guaranteed supply of pollination** in a vast but underserved and decentralised market;
3. **Investors with a fixed and steady rate of return** tied directly to pollination contracts by managing the value chain;
4. A centralised contract brokering entity, which does not currently exist in the ad-hoc pollination industry, and would allow for **standardised contracting** and more **equitable access** to the market by new (and sideline) beekeepers.

## Entity Structure



Risk	Mitigation
Hive loss & failure	BBB's additionality and reporting requirements ensure operational best practices, partnerships, and resources are in place, including 1/3 cash contingency to hedge against hive loss and reduce credit risk.
Contracting risks	BBB's brokerage ensures pollinators which meet lending requirements are able to secure farmer contracts.
Commercial risks	Rigorous and consistent credit process to identify most promising growth businesses; Valuable security in form of standardised equipment which BBB can exercise in event of insufficient cash flow after 2-year permitted grace.

## Illustrative Beekeeper Cash Flow (\$000s)

Contract Revenue	410
Honey Revenue	68
Brokerage Fees (8%)	(25)
Repudiation due to (25%) Hive Loss	(103)
Annual Operating Expenses	(189)
Opening Year Interest Paid to Investor Pool	(87)
<b>Annual Cash Flow Before Tax</b>	<b>74</b>
<b>Sources &amp; Uses</b>	
BBB Loan (October disbursement)	500
Upfront Costs (Oct - Dec)	(332)
Cash Contingency (for Spring hive replenishment)	(168)

## Investor Returns

BeeBank & Brokerage aims to deliver a competitive 3-5% return to investors, depending on their tranche in the securitised loan vehicle. Origination / brokerage fees will be utilised to cover expected credit losses for higher-rated tranches and incentivise BBB as the managing company. BBB will safeguard investor returns through its de-risked lending model due to contract broking, superior knowledge of a strongly-growing market, and technical additionality.

## Scalability and Impact

**Target Investors:** Agri- and sustainable finance-focused banks, pension funds, and other asset backed securities investors, as well as impact investors in sustainable agriculture and natural capital.

**Target Geography:** US sidelinee beekeeping industry

**Market Size:** 125,000 beekeepers, >3m hives in US beecosystem

**Scalability:** Total economic value of pollination industry ~\$217bn per year (\$34bn in US). After piloting in the US, BBB can expand to the commercial pollination industry in Australia, China, and Eastern Europe, which represent 9.5% of world agricultural production (including the 2.5% annual insect loss, representing 45% of pollination that will need to be supplemented by managed hives).

## Beekeeper Loan Terms

<b>Total commitment</b>	\$500k per 1,000 hives / \$200m target raise
<b>Min. borrower size</b>	1,000 hives
<b>Use of Proceeds</b>	Working capital and new hive capex
<b>Tenor</b>	5 years + up to 2 years' grace on commencement of amortisation
<b>Interest Rate</b>	LIBOR + 5%
<b>Origination Fee</b>	8%
<b>Financial Covenants</b>	Debt Service Coverage Ratio of 1x for Borrower OpCo and securitisation vehicle
<b>Sustainability KPIs and Borrower Undertakings</b>	Formation of OpCo with financial reporting. Maintain sustainable beekeeping methods including: (i) State apiculture inspection certificate, (ii) Documentation on feeding and treatment, with data to predict/track hive health, (iii) Contractual agreements with farmers on bee-healthy pesticide use

## Potential Securitised Loan Book Investors



CREDIT SUISSE

HSBC



Morgan Stanley



## Feasibility and Pilot

BBB will be launched with up to 400 sidelinee beekeepers in California, where the largest number operate, to provide up to \$200m in loan capital to purchase hives, equipment, and feed for bees. BBB will also broker 1 year's worth of pollination contracts between each beekeeper and farmers, for review and renewal after the initial year of contract is complete. Bees are a vital part of the world's natural capital and a living asset. Investing in bees will impact many product categories - some examples of which are outlined in the table below. In targeting \$164m of annual pollination revenues, BBB aims to fund a c. 15% expansion in the US commercial pollination with our pilot.

Global Pollination-Reliant Product Category	Fruit & Vegetables: Avocado, melons, almonds, berries, etc.	Fibers: Cotton, flax & hemp	Fodder for Cattle: Alfalfa, turnip, soy	Medicine: Quinine, eucalyptus	Spices: Mint, lavender, basil, coriander
% of category that rely on pollination	80%	75%	85%	80%	95%
Products impacted by lack of pollination	Nutritional and calorie dense food products	Clothing, fabrics, rope, fuels	Food for \$945bn global livestock industry	Quinine extract in malaria medicine & tonic	Spices for food, dried spice industry
Global end-market value (2025E)	\$2trn (18% CAGR)	\$66bn (12% CAGR)	\$32bn (24% CAGR)	\$2bn (10% CAGR)	\$25.5bn (15% CAGR)
US pollination market	~\$1bn (internalised industry revenue) / ~\$34bn (total economic value)				

## Impact Through Direct SDG Contributions

**SDG 2 (Zero Hunger)** through the promotion of resilient agricultural practices and increasing access to capital and markets for agriculture (indicators\* 2.3.1, 2.3.2, 2.a.2; 2.5.1).



**SDG 15 (Life on Land)** through the sustainable use and promotion of biodiversity and ecosystem services, reducing degradation of natural habitats (indicators 15.a.1).



**SDG 12 (Responsible consumption and production)** through the sustainable management and efficient use of natural resources (indicators 12.3.1).



\*For list of indicators, view: <https://unstats.un.org/sdgs/indicators/database/>

## Additionalities & Partnerships of BBB

**Education and common resources** for meeting DD requirements

**Commitment to privacy of data and info Partnerships** with CoBank, USDA, ApisProtect, BeelInformed Partnership, and FieldWatch will help provide beekeepers with critical resources

**Guarantee that farmers** receive the highest quality bees through healthy, high quality beekeeping, healthy treatment of bees, promotion of biodiversity through reduced use of certain pesticides

**Support for beekeepers** to have up to 1/3 contingency of hives, as well as honey production to substitute revenue in event of hive loss