

Kellogg-Morgan Stanley Sustainable Investing Challenge

Blended Finance Agriculture Bond

Catalysing Private Investment in Smallholder Farming via Blended Finance Instrument

Summary: Performance-based investment instrument



1: Scale of the problem

2: Why has this happened

3: What is the Blended Finance Agriculture Bond

to be a second second

4: Returns and Target Investors

5: Potential for scale

Poor Agricultural Yields are a Global Problem

Rural Latin American employment and incomes are dependent on agriculture, but production remains inefficient, driving high poverty rates



Smallholder Financing Faces a Range of Challenges

Existing agricultural lenders provide financing for coop-level working capital and infrastructure, rather than farmer-level tooling and equipment, due to a number of factors such as location, implementation cost, incentive to pay, and lack of security leading to continued low productivity yields and low incomes



The BFAB Targets this Productivity Gap

The Blended Finance Agriculture Bond de-risks smallholder farmer lending by aligning incentives throughout the financial instrument to improve farmer yields and ensure market level returns

BFAB Diagram



- The BFAB is a \$5.5M 5-year term bond
- Underpinned with principal or firstloss guarantee
- The bond will be managed by a bond management team (BMT)

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- Underpinned with principal or firstloss guarantee
- The bond will be managed by a bond management team (BMT)
- The BMT will work with established coffee lenders to shortlist coops
- \$1,000 will be invested in PP&E for up to 4,000 smallholder farmers
- Technical Assistance (TA) providers are paid a nominal fee, to cover costs, for implementation of PP&E and Best Practices training

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Stakeholder Distribution of Income



- As farmers revenues start to increase from the additional TA and equipment:
 - 45% distributed back to Farmer
 - 5% paid to TA provider
 - 50% paid to bondholder

Dynamic Incentives to Achieve Successful Implementation

The bond will use a tiered mechanism of incentives for farmers, such as access to improved equipment and additional training, to improve practices and accurately report yields and income data, ensuring improved sustainable economic outcomes



Bond Creates Significant Social & Environmental Outcomes

The BFAB will increase farmer income 7x, which will provide necessary means to support children's schooling, adult education, and healthcare essentials. In addition, the TA provision will help develop climate resilience in crops and transition to La Roya-resistant coffee cultivars over the medium term

SHORT TERM

LONG TERM



An Impact Measurement Framework Will Be Used to Measure Bond Impact

Bond implementers must monitor the below metrics to ensure that the desired impact is achieved through the bond. These indicators include primary indicators, and secondary indicators that demonstrate the trickle-down effects on community well-being and environmental sustainability



.... Implemented with a Rigorous Monitoring & Evaluation Process



Competitive Returns Directly Linked to Productivity Gains

Conservative base case for bond returns of 18.6%, for farmers averaging 2 hectares in land. As farmers land area increases, bond returns improve due to higher productivity yields for fixed cost of PP&E. Bond financing required to cover first 2 years of bond losses as productivity picks up

Year	Y0	Y1	Y2	Y3	Y4			
# Farmers	4,000	4,000	4,000	4,000	4,000			
Farmer Income (\$k)	1.6	3.2	5.6	8.0	11.2	- Farmer yield improvements: 55% → 75%		
Total Revenue	6,277	12,960	22,203	31,902	44,677	- Moisture reduction: 30% - 12% per quintal		
COGS (Labour)	(6,092)	(11,967)	(19,193)	(23,276)	(27,202)	 Price per quintal improvements: s/. 340 → 5. Quintals harvested per Ha: 10 – 33 Ha. per farmer: 2 		
Gross Profit	185	993	3,010	8,625	17,474			
ТА	(769)	(769)	(769)	(769)	(769)			
Bond Admin	(84)	(84)	(84)	(84)	(84)	2% Bond Management Fee		
Capex	(4,178)	0	0	0	0			
Cashflows	(4,847)	140	2,158	7,772	16,622			
Bond repayment								
Сарех	(4,178)	0	0	0	0			
Bond admin	(84)	(84)	(84)	(84)	(84)	- 50 TA providers at ~\$15k pa - 80 farmers per TA provider		
ТА	(769)	(769)	(769)	(769)	(769)			
50% Increase Profits	0	404	1,413	4,220	8,645	Bond financing required to cover cash short		
Bond Cashflows	(5,031)	(448)	560	3,368	7,792	in years 1 and 2		
IRR	18.64%					 Market comparable returns at base case Cashflow positive by Y2 		

Iterative Testing & Improvement Will Optimize BFAB Impact & Improve Scalability Potential



The BFAB has Significant Potential for Scale and Can Adapt to Diverse Agricultural Contexts

The yield gap that the BFAB is addressing in Peru is a global issue. Once payments have begun to prove the bond mechanism functions, it will be scalable to any value additive supply chain which currently has a yield gap, and any geography that is reliant on smallholder farmers.

Phase:	PILOT	GROW	REPLICATE
Years:	<u>0 → 2</u>	<u>3 → 7</u>	<u>5 +</u>
	Pilot Bond \$5,5M	Bond 1 \$10M	Bond 2 \$10M A M
Partner:	Conservation International	TBD	TBD
Geography:	Peru	Peru / Colombia	Central America / Sub-Saharan Africa
Value Chain:	Coffee	Coffee / Cacao	Coffee / Cacao
Anchor / Guarantor:	USAID Inter-American Development Bank (IDB) Ministry of Economy - Peru	USAID Inter-American Development Bank (IDB) Ministry of Economy – relevant countries	DFID / AFD USAID Inter-American Development Bank (IDB) Ministry of Economy – relevant countries
Investors:	Common Fund for the Commodities Global Climate Fund Global Innovation Fund Family Offices / Foundations	Common Fund for the Commodities Global Climate Fund Global Innovation Fund Family Offices / Foundations Commercial Investors	Common Fund for the Commodities Global Climate Fund Global Innovation Fund Family Offices / Foundations Commercial Investors

Appendix

The coffee Sector in Peru is an Ideal Value Chain to Pilot this RBF Instrument

Small farms are the main driver of agricultural production...



Farms under 20 Ha. contribute 91% of Peru's gross Ag. value of production⁽¹⁾



79% of Farms are **< 5 Ha.**

94% of Farms are **< 20 Ha.**⁽²⁾

... but have little access to growth capital for TA & PP&E



Coffee is the most extensive crop in Peru but yields are below potential



~67%⁽⁷⁾ of coffee production is concentrated in 3 regions





Source: (1) Climate Smart Agriculture in Peru, World Bank, 2016; (2,4,7) IV Census of Agriculture, Ministry of Peruvian Agriculture, 2012; (3) Access to finance for smallholder farmers : learning from experiences in LatAm, World Bank, 2014; (5) Opportunities in the Coffee Value Chain, Technoserve, 2015; (6) The World of Coffee in 2017, Neumann Kaffee Gruppe

TA & PP&E programs for small holder farmers have proven to be successful throughout Peru if program is well designed



- **Context:** Technoserve has supported cocoa and coffee growers in San Martin since 2012
 - Programs range from best agronomy practices to export-management support
- **Approach:** Provided TA and PP&E to increase income organize farmers to access profitable markets.
 - A business accelerator supports entrepreneurs to develop valued-added products (e.g. chocolate)

Results/ • Farm Learnings: ~20^o

- Farmers income on avg. can increase $\sim 20\%$ after the 1st year
- Programs have helped over 7,000 farmers and avg. payback period is 1 year

• As administrator of the Alto Mayo Forest in San Martin, Conserv. Int. funds productivity programs for farmers to reduce deforestation

PR ASOCIO

Programa de Entrenamiento en Gestión de Negocios para Organizaciones Rurales

- ProAsocio was hired to provide TA in sustainable agricultural practices
- Through conservation agreements, farmers agreed to associate as a coop, receive TA and certify their crops as organic
- Specialty coffee is exported to niche markets to increase farmers' income
- To date, 800+ families have signed conservation agreements with CI
- Farmers' income have increased in avg. 5x. over a 4 years period and up to 10x for top performers



- Common Fund for Commodities structured a \$110K pilot to test an Impact Bond in Peru in 2013
- Objective was to support cocoa and coffee production by an indigenous Asháninka association
- For 2 years, RFUK, the TA provider, agreed to work towards increasing members' productivity, production area, volume supplied to association and securing the sell to international markets
- Confusion on the starting date and baseline of the project led to only a 68% of expected goals achieved
- The verifier realized that KPIs were not well formulated and monitoring system was poorly established