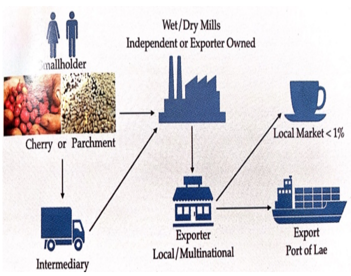
Cluster-Café

A debt fund to boost the specialty coffee market growth for economic prosperity of farmers & coffee processors in Papua New Guinea

Opportunity: Specialty Coffee in Papua New Guinea

The terroir for growing specialty (differentiated, highest quality) coffee in Papua New Guinea (PNG) is ideal. PNG specialty coffee commands a 1.5 to 20x[1] premium in the market (Avg 2.5x) & is globally recognized for its unique cup texture, not replicable anywhere else.



Specialty Market Size	
Specialty coffee, PNG	12%
Growth (CIC)	78%
Est PNG size, 2026	$240 M
Global Specialty coffee, 2026	**$86 B**

Socially, coffee income produces extremely high impact on the country:

- High Poverty: PNG's poverty rate is very high, at 39%
- Dependence: Coffee provides income to 40% of its population [3]
- Progressive: 85% of coffee is produced by smallholder farmers [2]

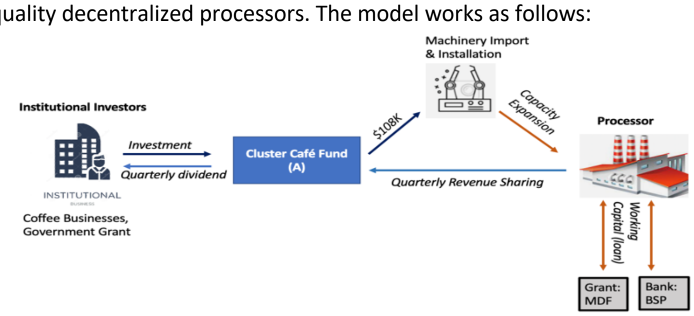
Problem: Market failure

There is 'unmet' demand for Specialty coffee due to following reasons:

- Harvested coffee fruit needs to be stored in ideal conditions and processed within 12 hours for best quality. ***Most factories in PNG are located in town centers away from the coffee producing areas and in the absence of storage, logistics and road infrastructure, most coffee loses its quality.***
- Decentralized coffee processors present in the coffee growing areas and solve this problem, but their capacity is insufficient. They struggle to raise capital due to their small scale, high volatility and seasonality of revenues which make high fixed interest payments risky. Further, the challenge of raising additional working capital for the increased capacity. Only top 10% processors get credit from the big exporters or banks, while 3 times the number are unserved.
- Exchange rate is regulated by PNG government, which makes buying USD, needed for importing machinery extremely difficult & costly (~6% premium).

Solution: Cluster-Café fund (CC-A)

The hybrid debt fund, CCA, provides expansion capital via loans for 225 high-quality decentralized processors. The model works as follows:



- **Quarterly dividend which is a mix of fixed interest rate (7.5%) and revenue-sharing (1.5%) starting from year 2 to 10**
- **Working capital support** either through tie-ups with partner organizations or facilitating **invoice-based financing** for select coffee processors by down selling to banks and financial institutions

Flow of Funds

Initial Investment:

Cluster-Cafe will fund 90% of infrastructure (greenhouse, drying and hulling machines) purchase & installation costs with direct payments (USD) for machine in year 0. Processor will fund the remaining 10%.

Operations:

After increasing capacity in the second year, the processor buys more coffee from nearby farmers. This coffee is bought at specialty prices (65% premium) from farmers, which would have been otherwise sold to city processors after 1-2 days and after quality loss at conventional prices. As coffee processing has high fixed costs, processors will also realize significant economies of scale. Cluster-Café will collect a fixed interest payment and a percentage of revenues from year 2. Thus, by filling the gap, the farmers get 65% higher price while saving logistics & storage costs, processor increases his volume and margin and saves significant currency exchange cost, and the investors get a solid return on their investment.

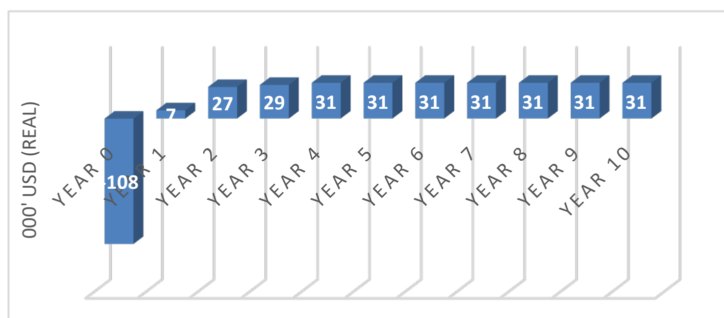
Investment Criteria

- Size: Min 30 MT (Average 50MT)
- Revenue per Year: Min USD 150k (Average USD 360k)
- Operating Efficiency: 10% Net Margin+ (high for specialty coffee)
- Operating Life: At least 5 years
- Quality: Export grade A/AA
- Use of Funds: capital expenditure for capacity expansion
- Regions of best coffee quality and no competing factories
- Qualitative assessment of farmer base and past performance through partnership with CIC (Coffee board of Papua New Guinea)

Loan Terms

- Avg loan quantum: USD 108k paid directly for machinery import
- Disbursements: End of Year 0 directly to machinery supplier
- Loan payback: mix of interest (7.5%) and revenue sharing (1.5%)
- Collateral: All factories have coffee hulling and drying equipment

Cash flow of 1 Processor



Low cost working capital

Once a processor expands its production, it will need higher working capital of the tune of 75% during peak season. Line of credit is extremely costly due to limited financial sources. Our partner MDF (AusAid) will provide a revolving fund at very low interest rate in areas of high impact. BSP bank will offer business loans at discounted rates as well for our customers. Also, once the processors have locked in demand we could seek to generate further returns by facilitating invoice financing through banks and financial institutions.

Fund Profile: Cluster Café - A

Asset class	Hybrid Debt Fund
Fund Type	Closed-end
Fund horizon	10 years
Early Withdrawals	None
Target geography	Papua New Guinea: Eastern Highlands, Simbu, Jiwaka Provinces
Target Portfolio	225 processors in 5 clusters over 3 years (Avg 75 new processors / year)
Fund size	USD 24 M
Target Investors	Coffee buyers (Starbucks, Nestle) investments, Government grants
Expected Returns	IRR: 19% (nominal), 14% (Real)
Added Returns	Coffee buyers: additional business benefit through increased supply of PNG specialty coffee (~8000MT)
Fees	2% p.a. management fee, 20% carry
Collateral	90% collateral by value expected
School defaults	5% defaults expected

Key Assumptions

- Specialty coffee price stability: Differentiated, specialty coffee remains uncorrelated to Arabica Coffee futures (NY ICE futures) and prices not volatile. Thus, stable revenues expected.
- The processor would take 3 years (1 to 3 years in general) to reach full capacity through minor awareness creation.
- Due Diligence: CIC data would provide processor list with publicly shared export and processing data. All applications would be vetted through our proprietary system and analysis tool. Next, the applicants would be vetted by partner organizations MDF or BSP bank. Finally, joint interview conducted by a full-time staffer and a member of the partner organization.

Social and Human Impact

Social impact can be classified in the following categories:

- Income growth of smallholder farmer, through Coffee price growth and logistics and storage cost saving

Impact Matric	Outcomes
Price for conventional coffee ($/kg)	3.1
Price for Specialty coffee ($/kg)	5.9
Price premium	87%
Percentage of a farmer's total coffee sale sold as specialty in our target area	60%
Cost Savings on logistics and storage ($/kg)	0.30
Average Farmer's Net Income increase	**64%**
Number of farmers directly impacted	**46,875**

- Farmer income volatility: Conventional coffee price is dependent on commodity exchange and was as low as $1.8 in 2020. Specialty price remains largely independent.
- Consumer Benefit: Coffee processed at right time has lower defects
- Sustainability: Specialty coffee process has lower wastage and follows more sustainable farming practices.

Risks and Mitigation

Risk	Mitigation
Due- Diligence	After starting with an objective criterion, we will interview farmers and verify the owner's financial records. Finally, we will leverage our relationship with the CIC (coffee board) to get additional qualitative assessment of the processor.
Counterparty Risk	As we are lending established, capital intensive businesses and investing in machinery, we will have a high collateral for our debt. Second, our partnership with CIC will act as a deterrent for any malpractice.
Currency risks	The local currency Kina is government regulated thus remains considerably stable. But, we will take currency forwards to hedge the currency risks.
Cash Flow Risks	During times of economic hardship or cyclicality of demand which leads to non-payment of interest, our hybrid debt model allows for taking higher revenue share in future years to compensate
Demand Risk	Demand for PNG Specialty coffee is increasing consistently in the market and thus marketing risk is small. Yet, a contract would be done with Olam/Volcafe to sell additional supply at 80% of the market price at the end of season.
Regulatory Risks	Work with CIC to ensure adherence to local regulation

Scalability

CC-A fund will serve as a pilot. Once successful, the fund would be easy to replicate as the same investors are expected to invest in the same model in different geographies. For example, Nestle, Starbucks and Keurig presently invest just to develop specialty coffee production in multiple places like Papua New Guinea. Once our model is successful in providing assured annual returns while developing specialty coffee production, high invest is likely to follow. Similarly, PNG government has set ambitious targets to boost specialty coffee exports. Thus, for the 1st fund, we will pursue coffee buyers & PNG government, all having the common goal of growing specialty coffee.

For fund CC- B, we would expect other governments to be interested. Along with these, commodity traders like Olam International which trade in all commodities are also likely to show interest in other commodities as well. Finally, traditional impact investors looking to create impact in the agriculture sector would help us expand the fund further.

Sources

1. *Papua New Guinea Coffee Market Study, Pacific Horticultural & Agricultural Market Access Plus Program, Papua New Guinea, Austalian Aid, New Zealand Aid*
2. *PNG Coffee Production and Export Statistics, CIC (Coffee industries corporation), 2017 (www.cic.org.pg/2017/03/22/png-coffee-production-export-statistics/)*
3. *Papua New Guinea: Boosting Production of some of the world's best Coffee, World Bank, 2014 (www.worldbank.org/en/feature/2014/02/25/png-boosting-production-of-some-of-the-world's-best-coffee)*
4. *Why exotic Papua New Guinea coffee has greater export potential, Business Advantage, Papua New Guinea*
5. *Papua New Guinea Promise only partly fulfilled, Coffee review, Davids K.*
6. *Expert interviews (see credits list below)*

Steven Tumai (GM, Coffee Industries corporation, PNG), Charles Dambui (CEO, Coffee Industries corporation, PNG), Febri Adetiya (Olam International- Coffee, exporter), Mohit Keshwani (CFO, Outspan PNG Ltd. Coffee, exporter), Bill Humphry (PPAP, World Bank-Coffee Industries corporation),Samuel Raffan (Sirigine Coffee, specialty coffee processor), Mark Munnul (Kosem Coffee, Small Processor), Sero Bebes (Beser Coffee, Specialty coffee Processor), Marie (Bsp Bank), Levi (Bsp Bank), Adnan Falak (MDF, Australian Aid)