



AFRICAN COFFEE SECTOR

addressing national investment agendas on a continental scale

Uganda Case Study

Sector study conducted by Agri-Logic and Valued Chain by assignment of
the Global Coffee Platform
Contact: info@agri-logic.nl

INTRODUCING NATIONAL COFFEE INVESTMENT AGENDAS FOR AFRICA



CHALLENGE:

- Currently Africa only supplies 10% of global coffee volumes, while coffee was first discovered in Ethiopia.
- In most African origins, yields are low, quality is inconsistent, and supply chains are inefficient.

OPPORTUNITIES:

- Buyers value certain coffees from Africa for their quality, and there is a potential to increase volumes to meet growing demand.
- Coffee may contribute to sustainable development in Africa's rural areas.

INVESTMENT AGENDAS:

- Greater understanding of challenges and opportunities in mainstreaming sustainable coffee production.
- Insight into required funding, return on investment, and possible public and private contributions.
- Insight into impact of investment based on quantitative research and stakeholder consultation. Benchmarks and analysis are based on 2015 data.
- Full reports available on the GCP website for Angola, Burundi, Cameroon, Côte d'Ivoire, Ethiopia, Kenya, Rwanda, Tanzania and Uganda.



CONTENT OF THIS REPORT

- Executive summary
- Positioning of coffee from origin
- Production areas in origin
- Supply & demand trend and
- Market interest in sustainability
- Value chain structure
- Farm level production systems
- Supply chain efficiency
- Differential competitiveness
- Cost of production
- Current farmer business case
- Production and price effects of investments
- Impact, cost and return per intervention
- Effect on farmer business case
- National sector business case
- Proposed public and private contributions
- Conclusion



INVESTMENT OPPORTUNITIES ANALYSIS

- The following slides describe the required investment (cost) and expected returns (revenue), as well as the expected impact on price, volume, quality and livelihoods.
- Investments are analysed on a sector level: total increased revenue in relation to total additional cost. On a sector level, all of these opportunities present a positive return on investment.
- Cost and benefits may not be attributed to the same actor in the value chain (e.g. government and buyers pay for farmer training, while the farmer gains most of the additional revenue from yield increase).
- Also, specific interventions may not lead to additional value creation, but to a redistribution of value within the chain (e.g. farmer grouping can lead to higher farm gate price, while export price and GDP contribution is not affected).
- Investment contributions are indicative based on stakeholder input. Investments and conditions to be negotiated within national public private platforms taking into account amongst others international competitiveness, governance, transparency and accountability assurance.



INVESTMENT AGENDA FOR THE UGANDA COFFEE SECTOR – EXECUTIVE SUMMARY

- Since 2001 **coffee supply from Uganda has grown by 0.91% per annum**. Arabica volumes grew over that period by an average of 5.11% per year while robusta grew by 0.14%. Farming systems tend to be diversified with a mix of food crops and coffee. In times of low coffee prices other crops receive more priority.
- Uganda has an estimated 1.32 million coffee farmers according to the 2005/06 National Household Survey. There are large numbers of farmers with just a few scattered trees. We estimate that **the country has around 700,000 farmers that have a meaningful number of coffee trees**. We shall use this number in the following analysis. This brings the average coffee farm size and income more in line with field observations of local exports.
- **Cost of production at farm level is low**. Even with additional investment in inputs and rejuvenation, cost of production in Uganda would remain competitive compared to Vietnam, where prices for labour in particular have increased significantly. **Uganda differentials are among the highest for robusta coffee and leave little room for inclusion of additional costs in the price.**
- Farm sizes are small, on average 0.45 ha. Productivity is already among the highest in Africa at 680kg green coffee per ha but further scope for improvement is present. **The small farm sizes make it nearly impossible for a coffee farming family to surpass the international poverty line from coffee alone.**
- The internal market is dominated by licensed buying agents that run small-sized dry mills and by exporters. The top-5 exporters control around 55% of the exports. All the international exporters are or have been investing in farmer support programmes. **The bulk of Ugandan exports go to markets that show a medium to high willingness to invest in sustainability.**



INVESTMENT AGENDA FOR THE UGANDA COFFEE SECTOR – EXECUTIVE SUMMARY

- There is significant potential to increase the coffee sector value in Uganda through selective investment in farmer training, farm rejuvenation, use of inputs, in-country processing and more farmer group development. **Over a period of 10 years a cumulative investment of ~176 million USD** (~95.7 million USD in farmer training, 22 million in rejuvenation, 47 million in inputs and 11 million in farmer organisation building) **can create 1.76 billion in additional value** over the same 10 year period at today's coffee and input prices.
- **The share of certified sustainable exports from Uganda is ~2%**, around half of the continental average of 4%. The Net Present Value for further investment in certification is negative, largely due to small farm sizes and low volumes per farmer.
- **Productivity could increase by 86%** over 7 to 9 years. This requires large-scale investment in a combination of farmer training, rejuvenating 30% of the tree stock and facilitating access to inputs.
- Much of the added value created through such investments flows into the rural economy.
- **Farmers' income can grow 1.9-fold**, but coffee alone will not provide sufficient income to lift the average farmer household above the poverty line of 1.9 USD/day. An additional 2.7-fold increase is required for that.



UGANDA

Focus on yields, rejuvenation and farmer organisation building

POSITIONING OF UGANDA



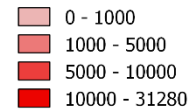
Item	Value
Total volume (3 year average)	220,000 Mt
% of global production	2.39%
% Arabica – Robusta	22% – 78%
% natural – semi-washed – fully washed	76% – 20% – 4%
Compound Annual Growth Rate of coffee production (2001-2015)	0.91%
Main export markets	EU, Sudan, India, USA
Market segments	Predominantly mainstream robusta
GDP	29.55 billion USD
GDP – agriculture	8.04 billion USD
GDP – coffee	0.34 billion USD

UGANDA COFFEE PRODUCTION AREAS BY DISTRICT, TYPE AND SUPPLY LEVELS

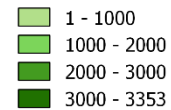


Coffee production in Uganda

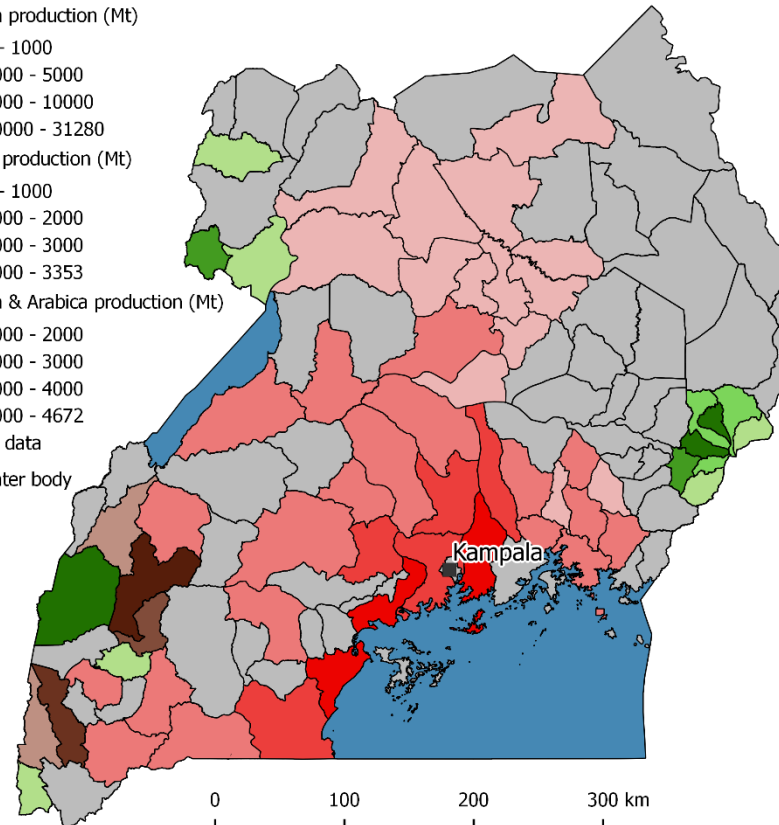
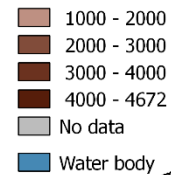
Robusta production (Mt)



Arabica production (Mt)



Robusta & Arabica production (Mt)



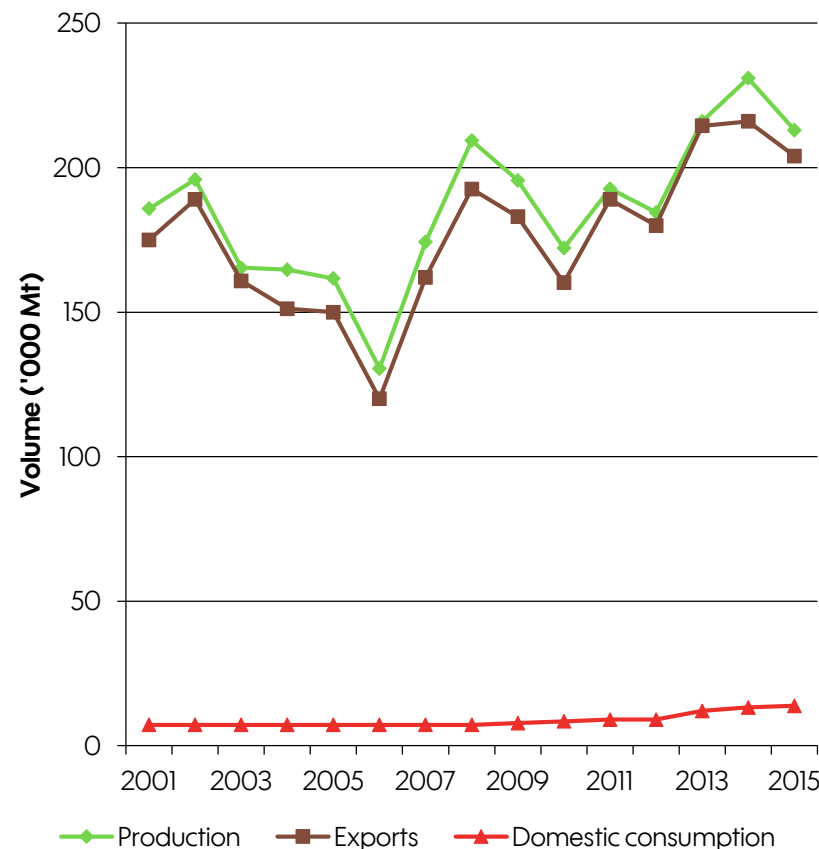
- Robusta is grown in the lower altitude central axis of the country.
- Arabica cultivation takes place in the Ruwenzori mountains in the west and on the slopes of Mount Elgon in the east.
- Most coffee production areas are densely populated and offer little or no scope for expansion of acreage, unless farmers uproot other crops.
- A 2013 study by Technoserve estimates that landholdings per farming household have gone down from 4 ha in the 1960s to 1 ha in 2012.
- We suspect that a major contributor to the large coffee farmer population is the splitting up farms after inheritance, rather than new people entering into coffee.

Sources: Census data, interviews, TNS, AL and VC analysis

UGANDA PRODUCTION HAS WITNESSED A STRONG DECLINE BUT IS RECOVERING



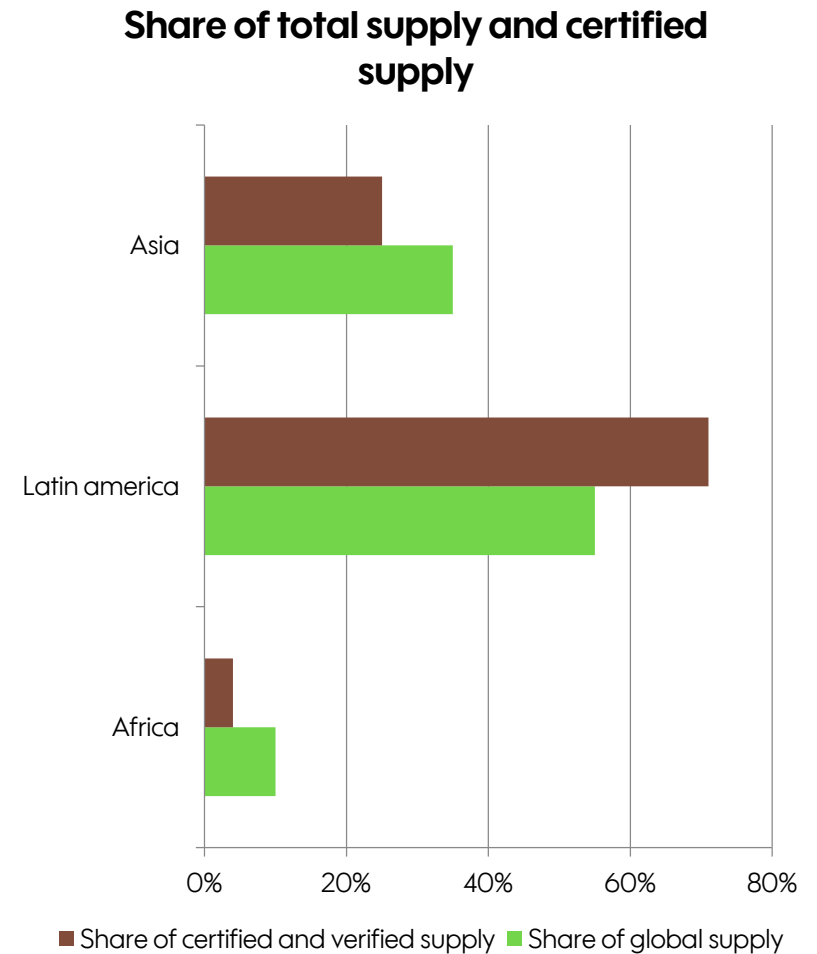
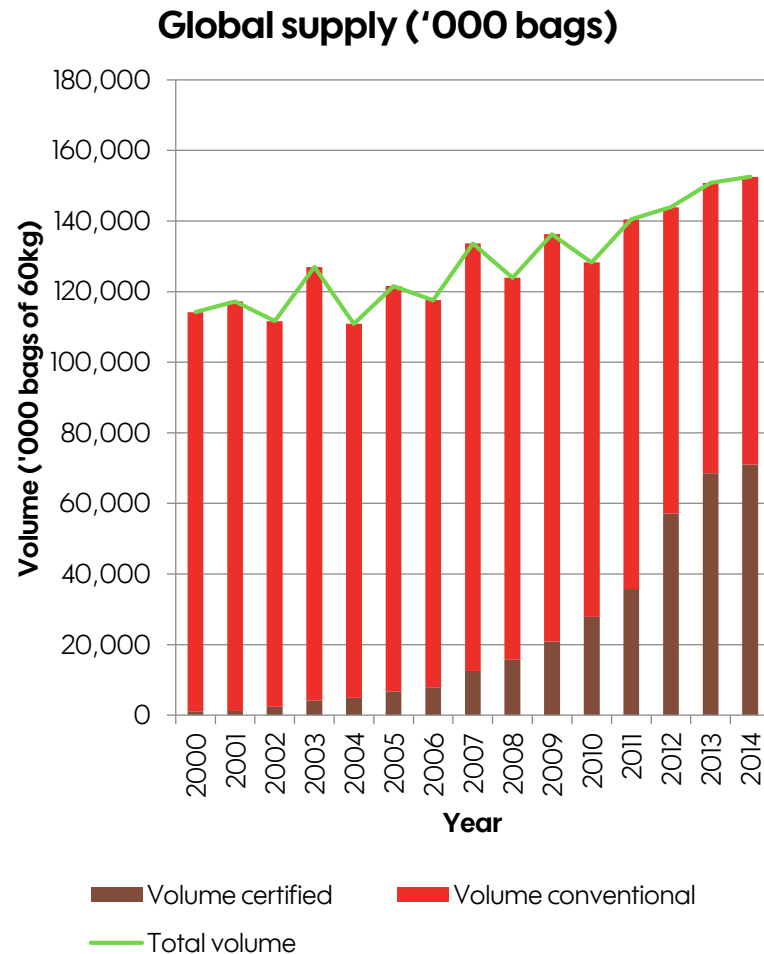
Production, exports and consumption (Mt)



- The “coffee-crisis” reduced supply significantly as farmers neglected coffee.
- Robusta supply has been significantly affected by Coffee Wilt Disease (CWD) since the mid-90s but a turn around seems to have come about since the mid of the 2000s.
- Compound Annual Growth Rate is positive at 0.91%
- Growth for robusta was 0.14% while arabica supply grew by 5.11% over the same period.
- Wide-spread replanting in robusta imply that prospects for stronger growth look good, but access to CWD-resistant clones is limited.
- Domestic consumption is picking up a bit in recent years, but for the time being will remain a factor of limited influence.

Sources: USDA, interviews, AL and VC analysis

AFRICA LAGGING IN SHARE OF CERTIFIED SUSTAINABLE SUPPLY



Sources: USDA, CTA, AL and VC analysis

MARKET SHARE OF CERTIFIED COFFEE LOW IN AFRICAN CONTEXT



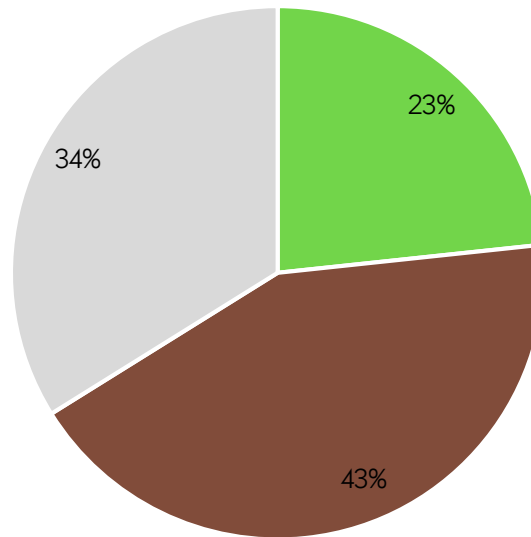
- Uganda was an early adopter of certification.
- This was primarily driven by demand from international clients.
- Certified exports are ~2% of total exports against an average of 4% on the African continent.
- Most of the larger exporters apply certification for part of their supply. UTZ and 4C are the dominant standards.
- We suspect the marketability rate (share of certified coffee exported divided by certified sustainable production) to be below the global average is ~30%. Only UTZ made detailed supply and demand data available and for that coffee the marketability rate was 13% on average from 2013 to 2015
- Premiums tend to be paid for exported certified coffee, but small volumes per farmer and a low marketability rate make it challenging to obtain a positive return on investment.

Sources: Industry interviews, AL and VC analysis

EXPORTS OF UGANDA TO MARKETS WITH HIGH AND MEDIUM INTEREST SUSTAINABILITY



Uganda exports (% of total) and market interest to invest in sustainability in destinations



- Export to tier 1 countries with high interest/investment in sustainability
- Export to tier 2 countries with medium interest/investment in sustainability
- Export to tier 3 countries with low/no interest/investment in sustainability

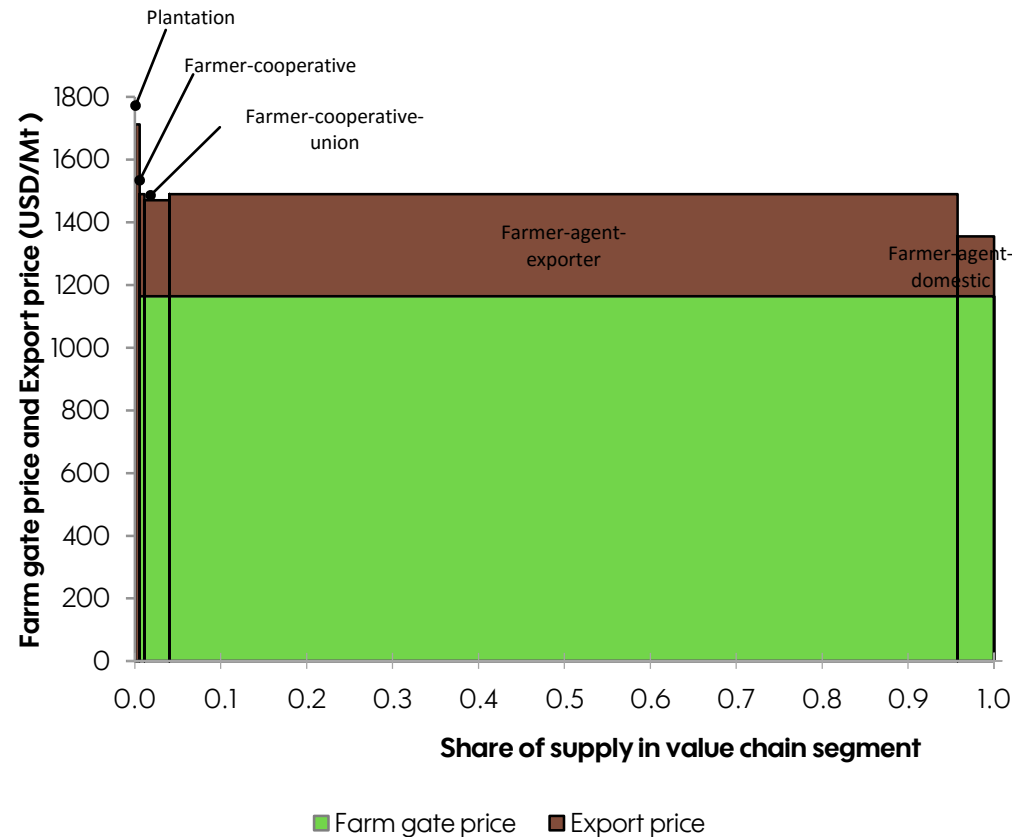
- Tier 1 markets: USA, UK, Switzerland, Germany, Netherlands.
- Tier 2 markets: France, Belgium, Italy, Spain, Scandinavia.
- Tier 3 markets: rest of southern Europe, all others.
- Most of Uganda exports (66%) to tier 1 and 2 markets, assuming no re-exports from first destination.
- Investment from the international roasting industry continues to take place in Uganda, primarily in the robustas but this is driven by a single large roaster
- Domestic investment is also present, with the 1% cess being used to finance the operations of the Uganda Coffee Development Authority.

Sources: UCDA, VC and AL analysis

LOCAL MARKET DOMINATED BY AGENTS AND EXPORTERS



Value chain structure Uganda Robusta 2015



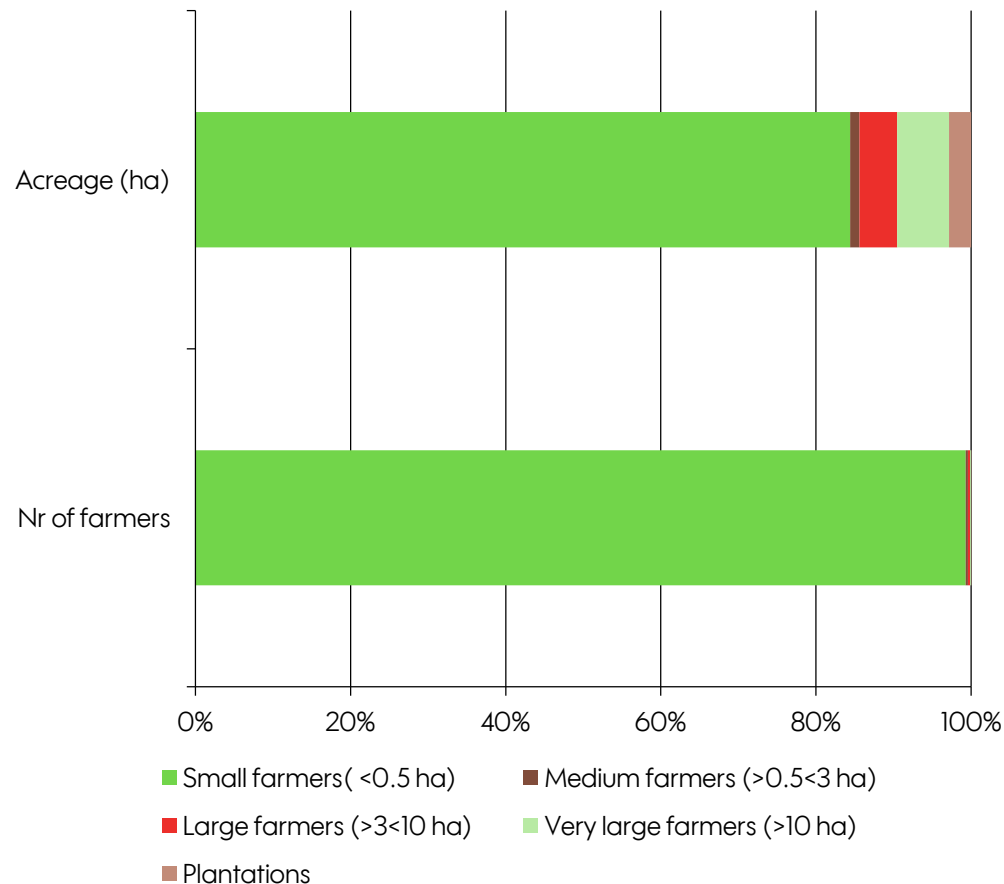
- 5 different market channels characterise the local market.
- The role of cooperatives is very limited, <1% of export market share, cooperative unions capture around 3% of exports.
- Competition on the internal market is fierce, little differentiation in farm gate price.
- Bulk of exports in hands of private sector, working through agents, traders and small milling stations.
- Five companies are responsible for 55% of registered exports.
- Differentials at around 240 USD/Mt for screen 15, partly because of high demand in Sudan. New import regulations in Sudan could depress demand from that country.
- Plantation obtains better prices from selling washed robusta.

Sources: UCDA, interviews, AL and VC analysis

SECTOR CONSISTS PREDOMINANTLY OF SMALL-SIZED FARMS OF LESS THAN 0.5 HA



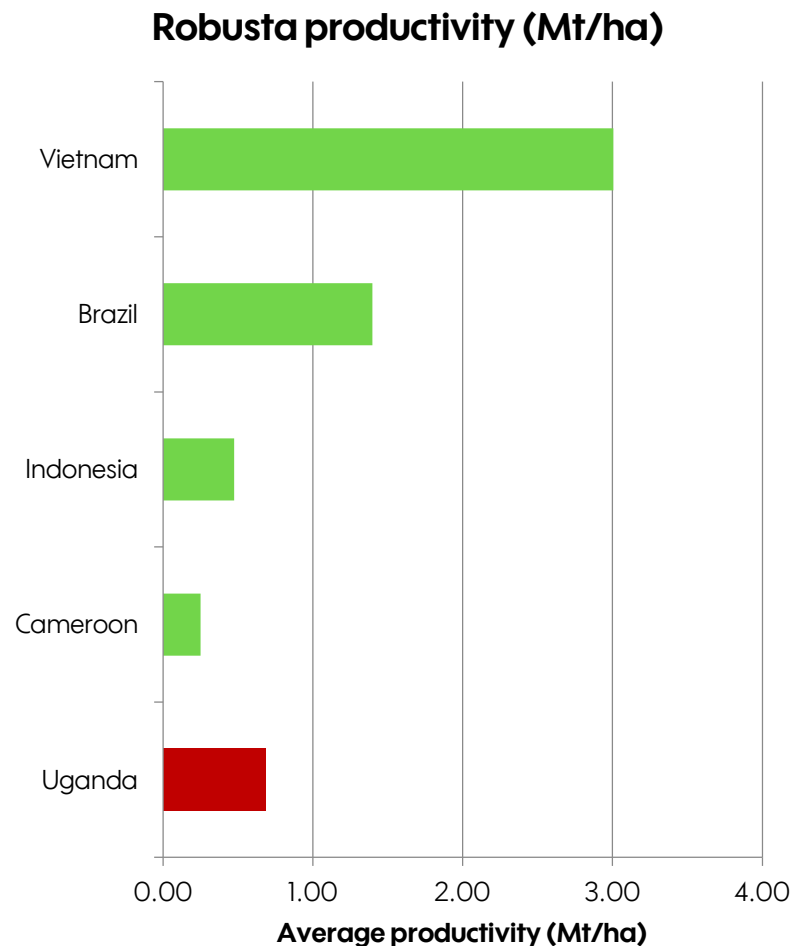
Nr of farmers and acreage distribution



- Average farm size: 0.45 ha.
- Acreage and farmer numbers vary widely between sources.
- Our assumption: 1.32 million farmers (2005/06 household census) of which 700,000 farms with a meaningful number of trees and 321,000 ha. UCDA is planning a new coffee census.
- Land shortages are prevalent, farm sizes per household have come down significantly as plots are split between siblings when inherited.
- Medium to large scale farmers control over 80% of the acreage.
- A single large-scale plantation (>1,500ha) and few smaller ones are operating in robusta.

Sources: UCDA, PSD, FAO, interviews, AL and VC analysis

CURRENT PRODUCTIVITY LEVELS ARE HIGH IN THE AFRICAN CONTEXT BUT LAG WITH MARKET LEADER VIETNAM



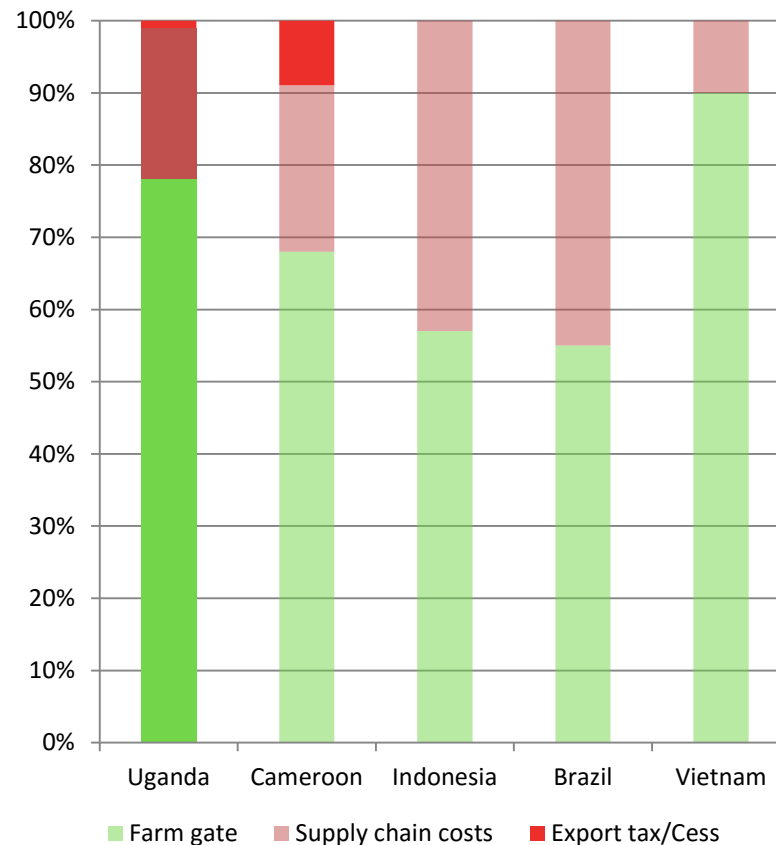
- Productivity of robusta is 680 kg green coffee per ha.
- Productivity in robusta market leader Vietnam is more than a factor 4.5 higher, but Uganda outperforms competitors such as Cameroon and Indonesia.
- Farm sizes are small, so despite relatively high productivity, volumes produced per farmer are much smaller than in other non-African origins.
- This makes implementation of certification that carries a fixed cost per farmer and earns a return on volumes sold, rather challenging.
- Productivity in Uganda could increase further, surpassing 1 Mt/ha appears to be feasible.

Sources: USDA, FAO, interviews, AL and VC analysis

TAXATION IS LIGHT AND SUPPLY CHAIN OPERATES FAIRLY EFFICIENT



Value distribution Robusta (% of FOB price)



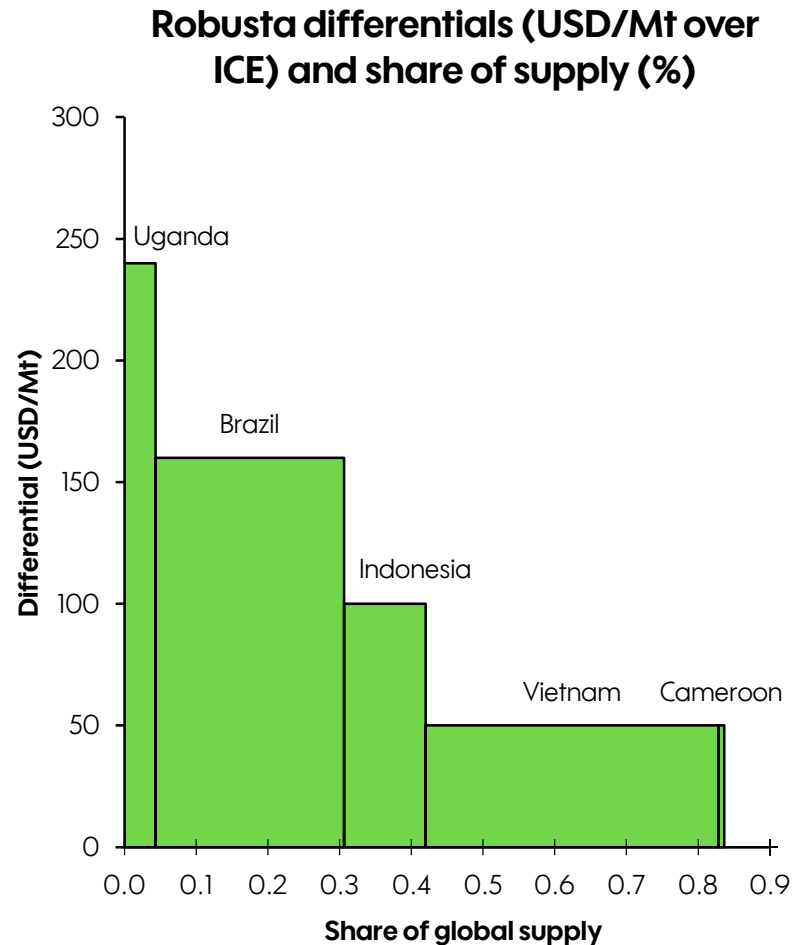
- Ugandan exports are lightly taxed compared to some other origins. Export tax (or cess) is set at 1%.
- Taxes are lower than in neighbouring Tanzania and reportedly some 20% of the robusta crop from the North-East of Tanzania is smuggled into Uganda.
- On average farmers receive 78%* of the FOB** value, 10 percentage points more than in Cameroon and 21 points over Indonesia.
- There is a significant supply chain efficiency gap with market leader Vietnam. Partly this is unavoidable as logistical costs are high because of transport to the port of Mombassa.

* There are some doubts regarding the 78%, with some in the industry indicating this should be in the high sixties instead. We tend to agree with that observation as it appears that the current calculation does not adequately factor in the effect of pre-harvest selling by farmers at much reduced prices. However, the only data sources available to us result in a 78% level.

** The benchmarking is done at point of export, which in case of Uganda actually means that the FOT price is used.

Sources: Interviews, TNS, AL and VC analysis

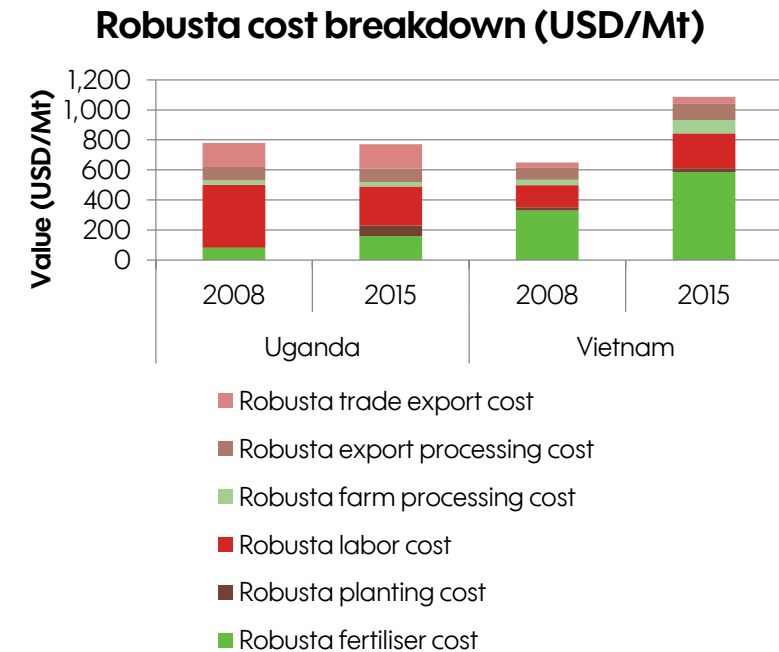
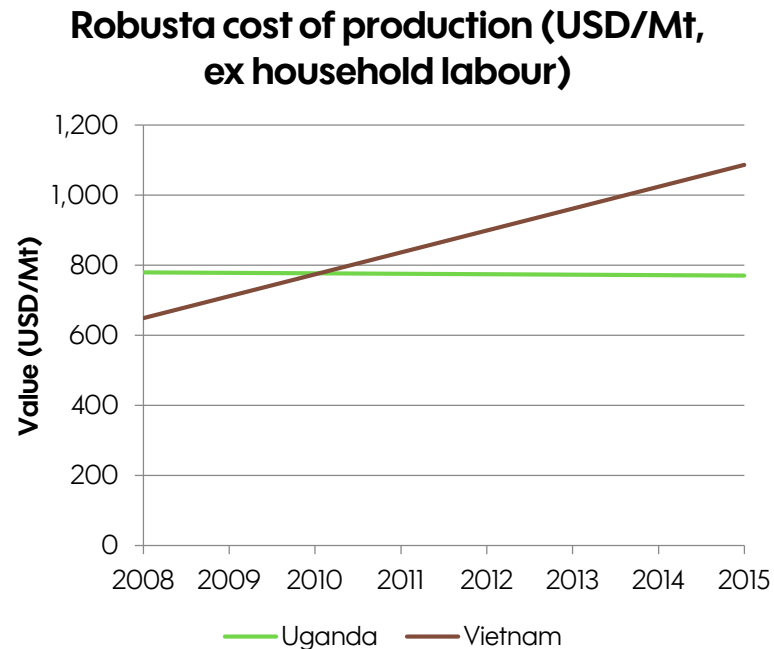
DIFFERENTIAL HIGH, NO SCOPE TO PASS ON ADDITIONAL COST TO FINAL BUYERS



- Differential for Uganda robusta screen 15 is around 240 USD/Mt over ICE, far higher than any other robusta, except for washed coffees.
- Competition for supply from Sudan has reportedly driven up the differential.
- Further differential growth is unlikely, if anything, enhanced import restrictions in Sudan may depress the differential.
- Differentials for washed robustas can reach up to 1,100 USD/Mt in India and Indonesia for the top qualities (not shown here). Increasing washed robusta could offer scope for value addition.

Sources: HRNS, UCDA, USDA, AL and VC analysis

HOWEVER, COST OF PRODUCTION IS LOW, WHILE COST IN VIETNAM INCREASE



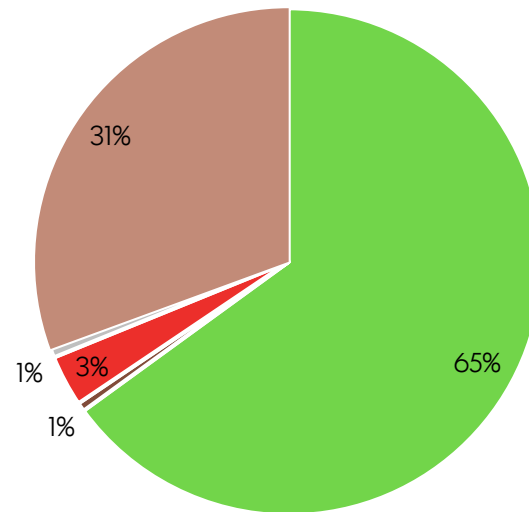
- Increasing cost in Vietnam, especially labour and fertiliser, can be an opportunity for Uganda and other robusta origins in Africa. Efficiency gains in export cost could further enhance competitiveness.
- Historically, low-cost producers have gained dominance (e.g. Brazil and Vietnam).

Sources: Interviews, JDE, 4C, TNS, AL and VC analysis

FARMERS HAVE ACCESS TO CREDIT BUT PROHIBITIVE COST PREVENTS INVESTMENTS



Farmers' access to credit

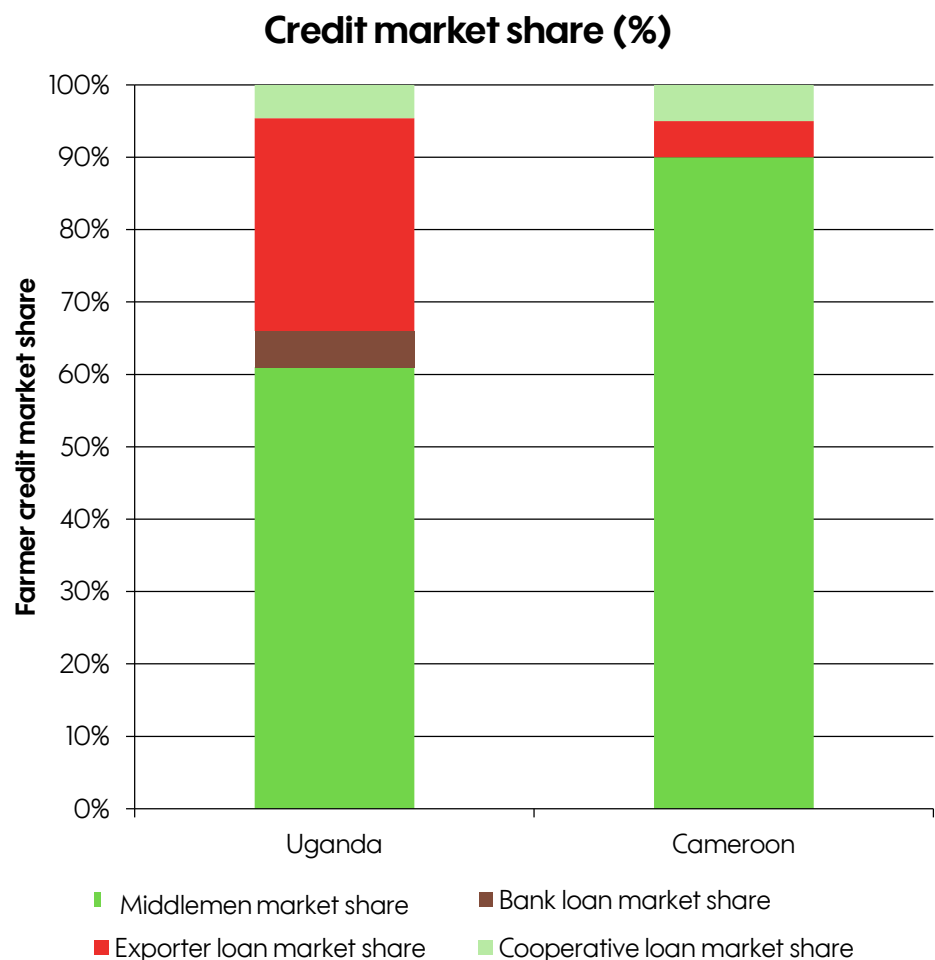


- Share of farmers LBA loan
- Share of farmers bank loan
- Share of farmers exporter loan
- Share of farmers cooperative loan
- No access to credit

- An estimated 69% of farmers has access to credit, much of this is provided by local traders at steep interest rates.
- Credit is usually short term to meet cash flow shortages.
- Much credit is made available against future crops and at fixed coffee prices at the time of taking out the loan.
- Middlemen interest rates are around 7% per month on average, which equals 84% annually or 63% per coffee season.
- The weighed average interest rate is 4.7% per month. Given high cost of credit much of its use is for emergency purposes, not investment.
- Loans from exporters and cooperatives are far cheaper but their risk appetite is currently too low to reach significant numbers of farmers.

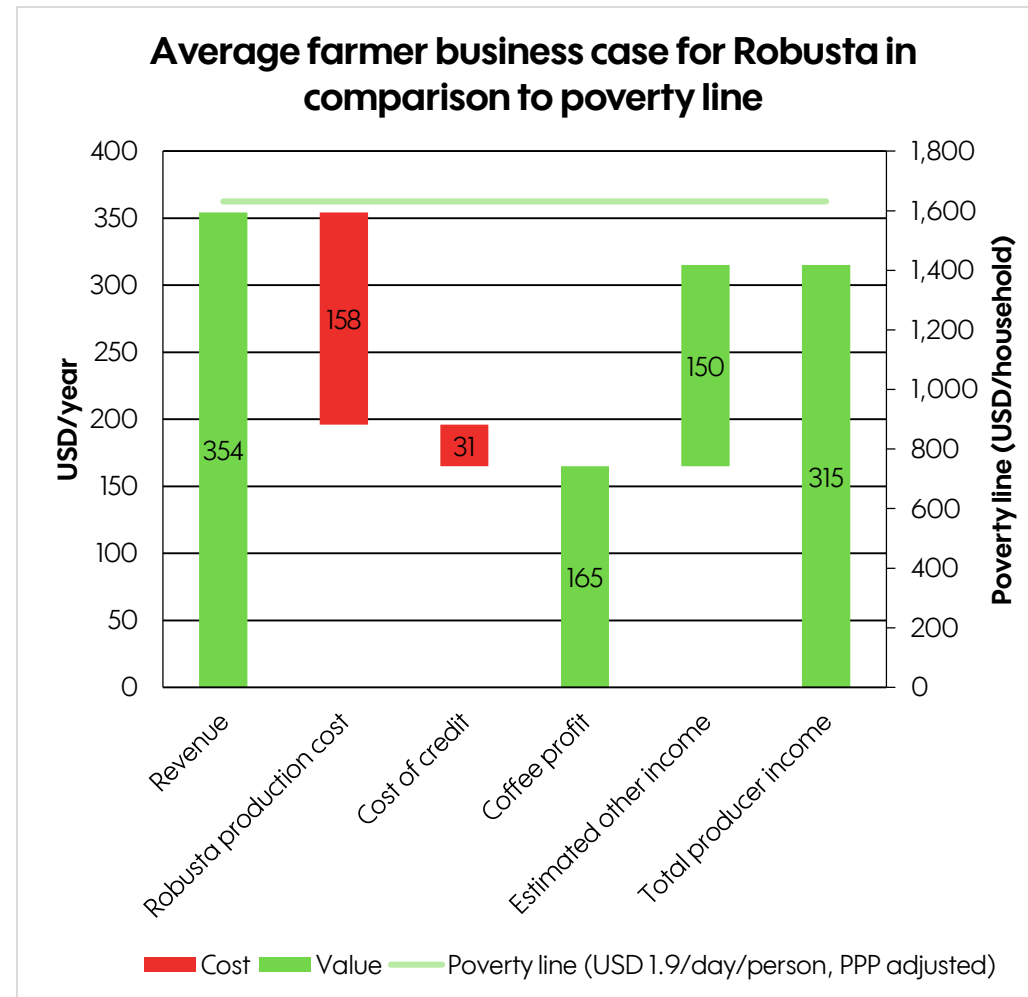
Sources: Interviews, AL and VC analysis

LOCAL TRADERS CAPTURE MAJORITY OF FARMER CREDIT MARKET



- Local traders, or middlemen, have an estimated 61% share of the farmer credit market by estimated loan value (which constitutes of around 69% of the farmers).
- The farmer credit market is more mature than in Cameroon, but middlemen dominate.
- Exporters are involved too and tend to make larger ticket sizes available, but they reach a limited number of farmers.
- A wider distribution of cheaper credit could have significant impact.
- Limiting this is the low supply rate of farmers to cooperatives and exporters. The cooperatives capture around 15% of their members' coffee volume.

COFFEE FARMERS HAVE SIGNIFICANT OTHER INCOME SOURCES



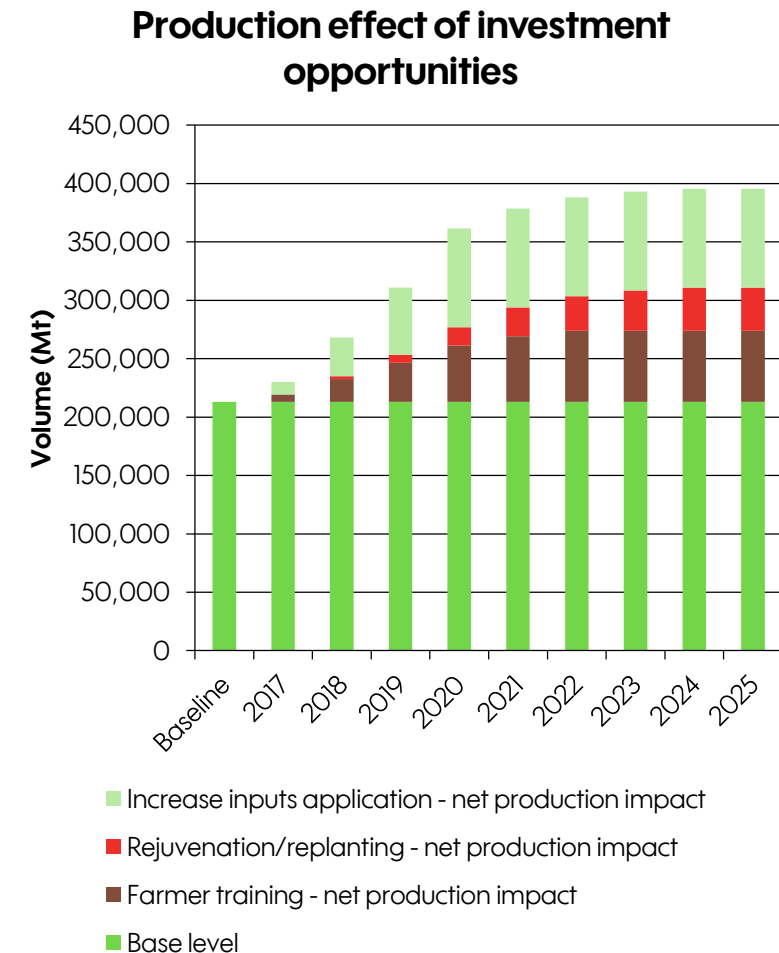
- Most farmers with alternatives appear to have moved out of coffee into other crops such as maize, matooke and vegetables.
- Still, at current production levels per farmer other opportunities may be more attractive (palm, vegetables, cocoa), especially for farmers that farm close to urban centres.
- It is recommended to target investment in areas where few alternative cash crops are available.
- With an average family-size of 5.8 people per household, net coffee income is about 5 times less than the poverty line of 1.9 USD/capita/day (adjusted for purchasing power parity).

Sources: Interviews, USDA, AL and VC analysis

MODELLING INVESTMENT OPPORTUNITIES – PRODUCTION EFFECTS



- Modelling 6 opportunities:
 - Farmer training
 - Rejuvenation/replanting
 - Increasing input application
 - Certification
 - Farmer organisation building
 - Access to credit for farmer organisations
- A combination of first 3 interventions could increase average production per farmer (and per ha) 1.7 fold.
- The respective investments are mutually reinforcing, implementing one without doing the others will result in lower return on investment
- This would bring national production to ~395,000 Mt by 2024.



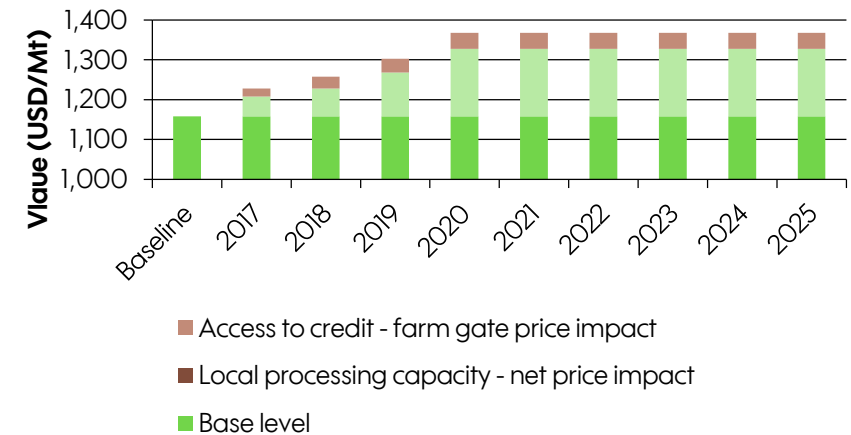
MODELLING INVESTMENT OPPORTUNITIES – PRICE EFFECTS



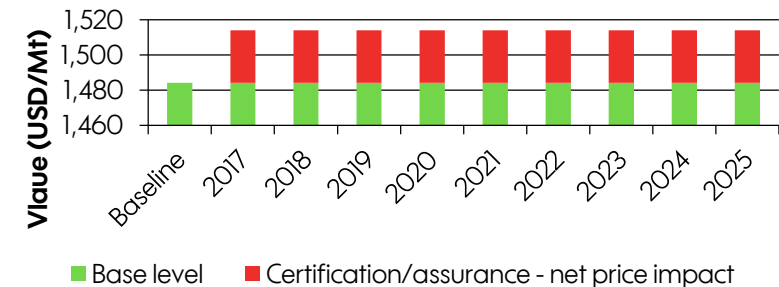
- Assuming weighed average base price stable over time
- Farmer organisations, if well managed, can add significant value to the farm gate price as a result of improved logistics and hence more competitive pricing than that of local traders
- Better access to credit for farmer organisations can increase their share of coffee purchased from members, adding further value still. Current share of members' bought for all cooperatives* is 15%
- Export prices could potentially be affected by certification, modelling a 30 USD/Mt premium. Due to small volumes of certified coffee reaching the market against premiums, the weighted price effect is less than 2 USD/Mt across the sector and the Net Present Value of such investment is negative.
- Detailed models for the first 4 opportunities which show a positive business case are shown on the following pages

* Excluding Nucafe which claims a large membership base but very low procurement

Farm gate price effect of investment opportunities



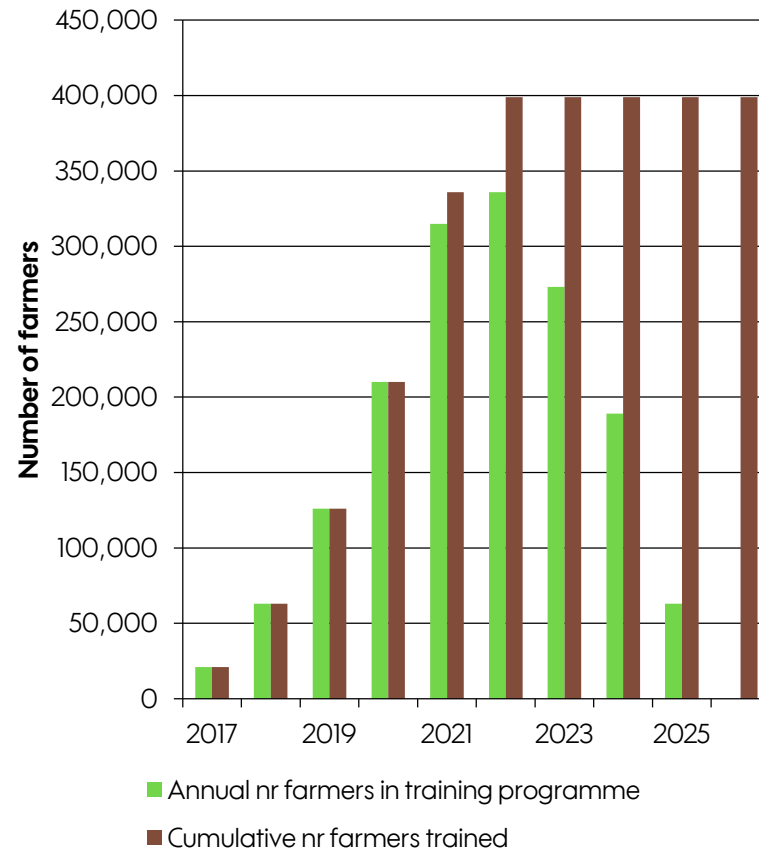
Export price effect of investment opportunities



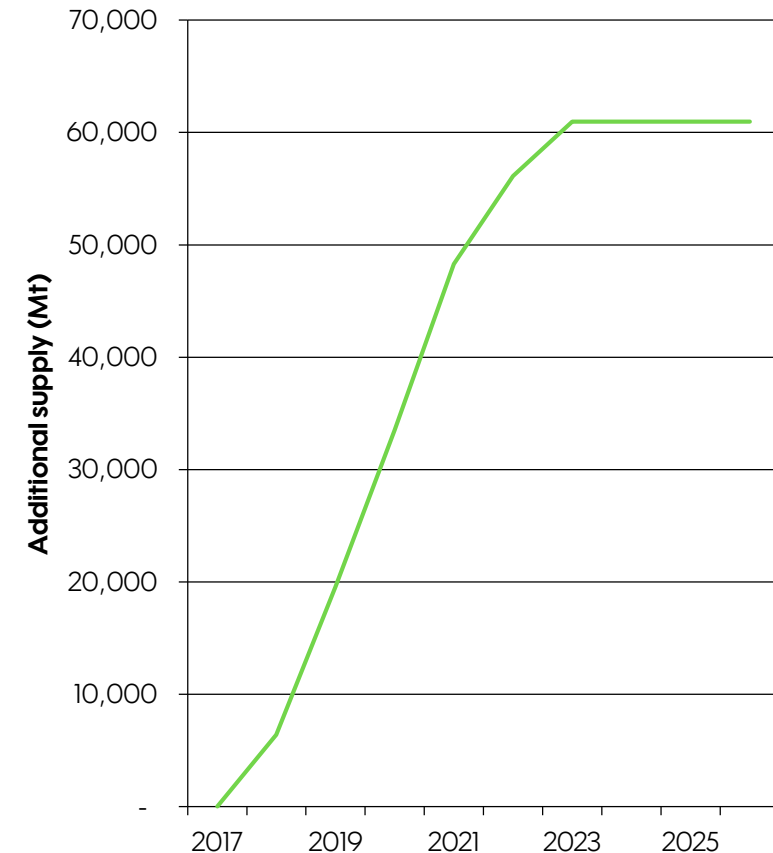
FARMER TRAINING INVESTMENT CAN GROW CURRENT SUPPLY BY 30%



Number of farmers enrolled in training program



Additional supply from farmer training programme (Mt)



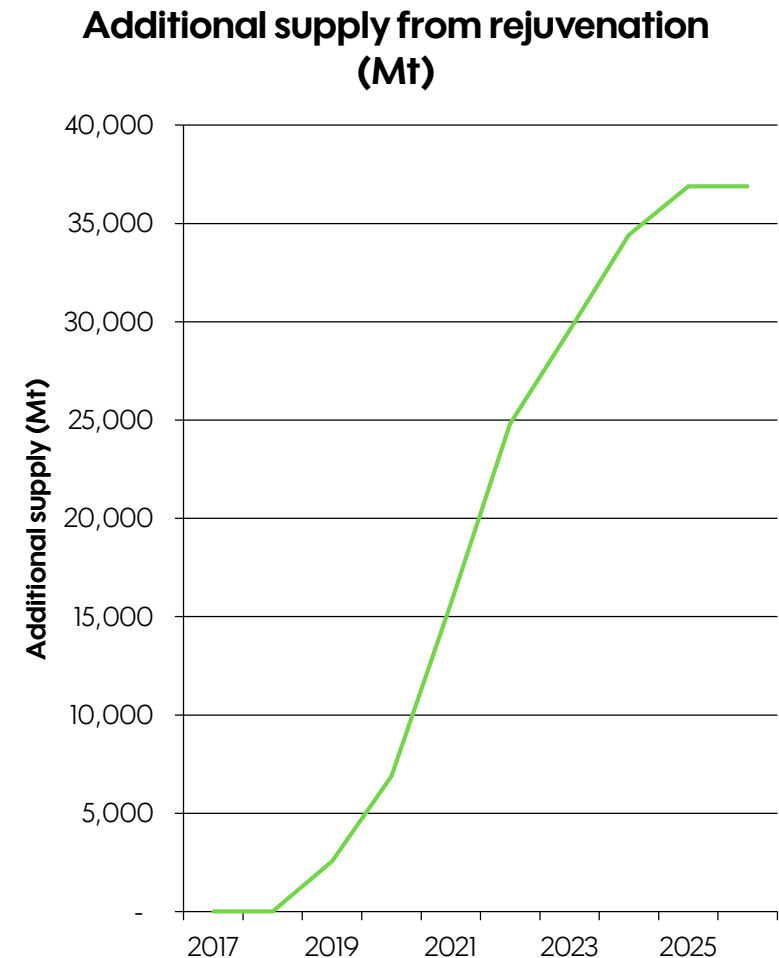
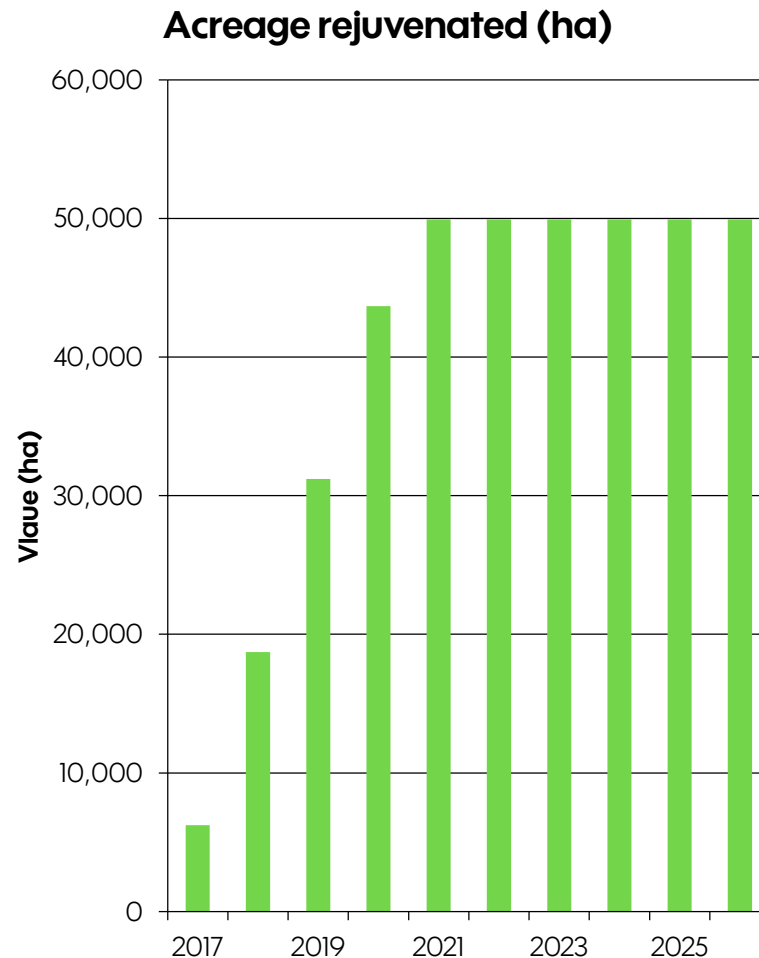
FARMER TRAINING OFFERS POTENTIALLY EXCELLENT RETURNS ON INVESTMENT



- For training on Good Agricultural Practices to be effective it needs to be participatory, intensive and should run for at least 4 years.
- Against this background we budget 60 USD/farmer/year in training costs, assuming 60% of the 700,000 farmers to be motivated, the investment would total 95.7 million USD over 9 years.
- A large pool of experienced trainers and a national coffee curriculum is already available in the sector. This results in much lower costs than in Cameroon where costs are expected to amount to 120 USD/farmer/year.
- Current government extension services appear to have some reach and scope, but quality of training is a concern. A recent initiative to send out army recruits to provide training to farmers after having themselves received a short coffee training at Makerere University may not be the best investment. Several private sector operators have good track records in farmer training (e.g. Ecom, Volcafe, Sucafina, NKG, Olam).

Indicator	Value (10 years)
Cumulative nr of farmers reached	399,000
Additional volume coffee per annum in steady state (Mt)	60,980
Total investment	\$ 95,760,000
Total return	\$ 605,260,384
NPV (10%)	\$ 260,122,046
NPV (20%)	\$ 146,124,325
Investment per farmer	\$240

REJUVENATION INVESTMENT TAKES A WHILE TO SHOW EFFECTS...



...BUT RETURN ON INVESTMENT IS POSITIVE



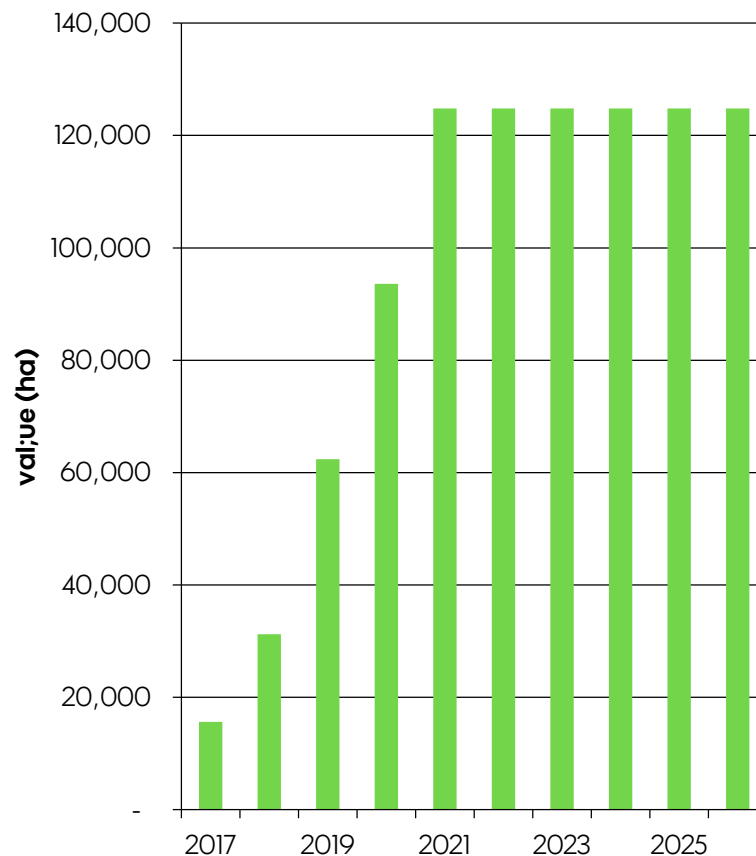
- Government sponsored and private nurseries are available. For seedlings and clones capacity appears to be sufficient. For Coffee Wilt Disease (CWD) resistant varieties supply is tight.
- Historic issues with CWD in Uganda make it imperative to use such varieties. Drought tolerance should also be factored in. The 2010 supply dip came after 5 months of wide-spread drought. More such periods are expected in the future.
- We assume that a 30% replanting rate is required and that 60% of the farmers would be willing to take this up, resulting in 49,000 ha replanted.
- As labour is relatively cheap, investment in replanting amounts to 450 USD/ha all-in.
- Once concluded the replanting programme can contribute around 37,000 Mt of additional supply.

Indicator	Value (10 years)
Cumulative acreage replanted (ha)	49,920
Additional volume coffee per annum in steady state (Mt)	36,890
Total investment	\$ 22,464,000
Total return	\$ 278,513,513
NPV (10%)	\$ 120,209,517
NPV (20%)	\$ 61,133,582
Investment per ha	\$ 450

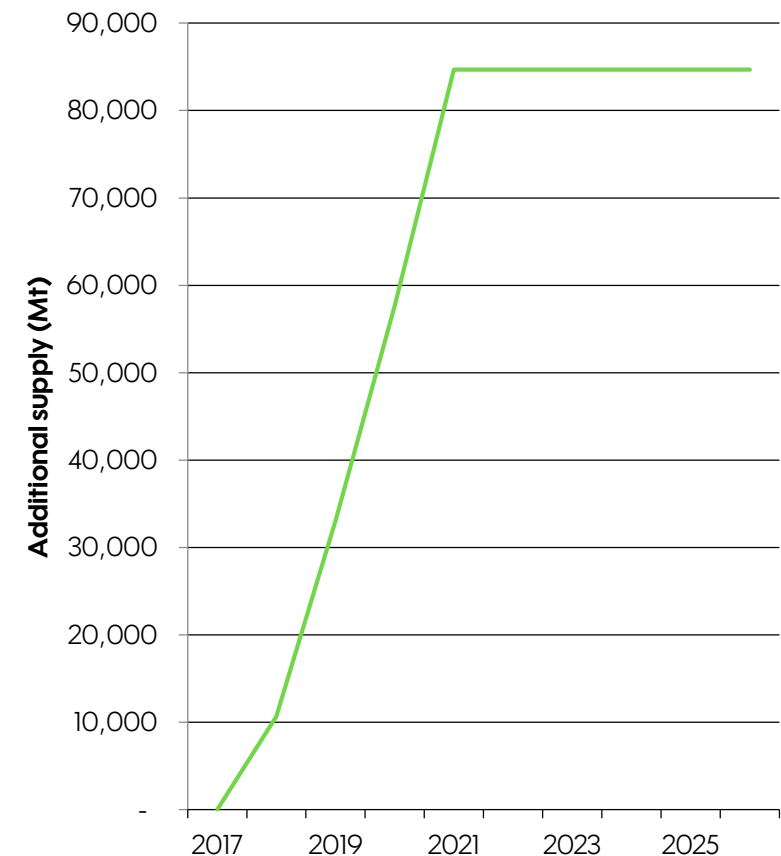
INPUT SUPPLY INVESTMENT CAN HAVE A WIDE REACH



Acreage with enhanced input use (ha)



Additional supply from input use (Mt)



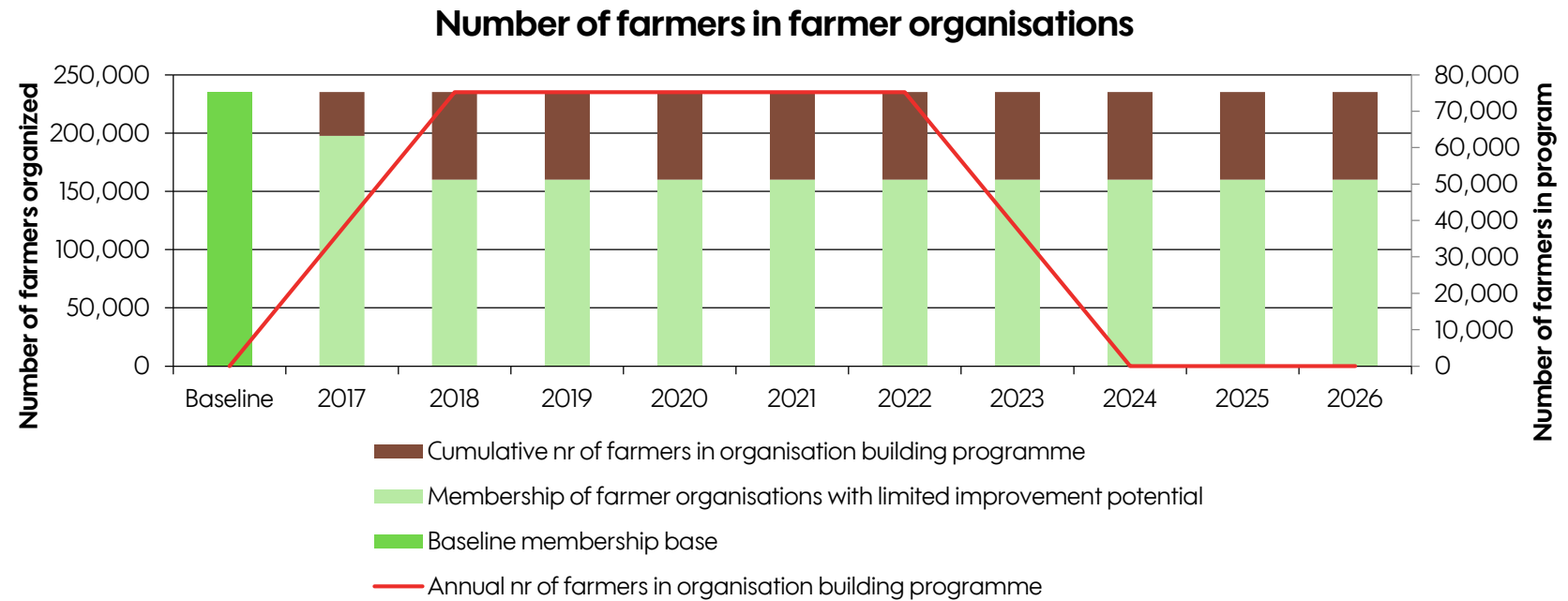
INPUT USE STILL LOW, BUT COULD GROW AS FARMERS' EQUITY INCREASES



- Small-scale farmers tend to be risk averse as one failed crop is enough to undermine their living conditions.
- Fertiliser investment can be risky, but farmers would have to finance 20%-30% from equity.
- Limited extra use of inputs can be promoted to match risk appetite of farmers and generate additional production.
- With 50 USD/ha/year investment per ha on top of the current level of 160 USD/ha on 40% of the national acreage, an additional 84,678 Mt coffee can be produced.
- Only farmers that are part of the training programme should make use of the additional input supply investment to ensure optimal use.
- Experience from several coffee projects in Uganda shows that 20-30% of fertiliser made available for coffee will be used on food crops.

Indicator	Value (10 years)
Acreage using additional inputs in steady state (ha)	124,800
Additional volume coffee per annum in steady state (Mt)	84,678
Total investment	\$ 47,580,000
Total return	\$ 904,393,651
NPV (10%)	\$ 456,041,095
NPV (20%)	\$ 266,325,620
Investment per ha per year	\$ 50

MEMBERSHIP OF FARMER ORGANISATION IS HIGH, BUT A LIMITED SHARE OF THESE ORGANISATIONS CAN IMPROVE

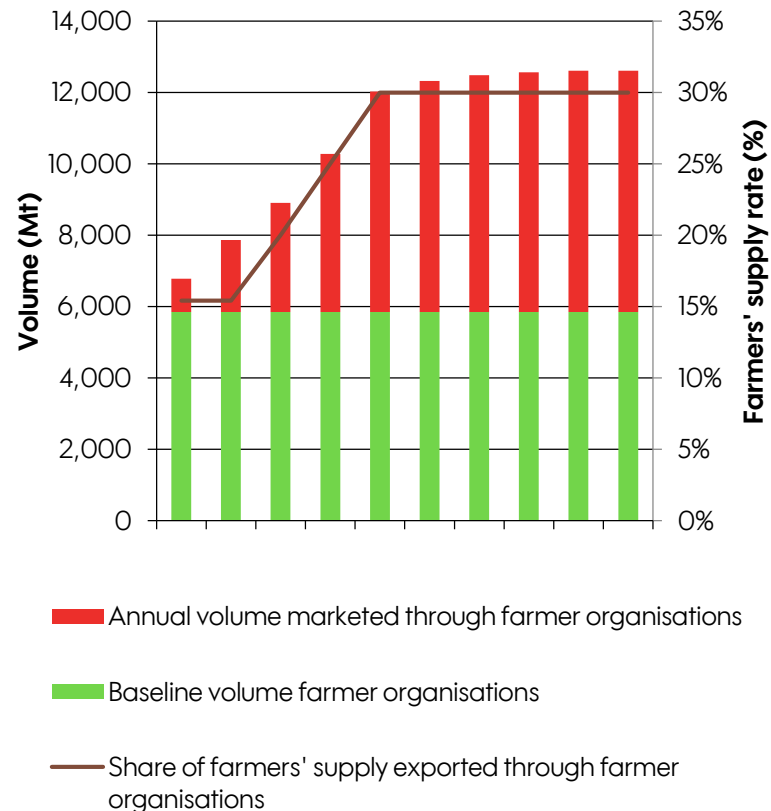


- Total registered membership of farmer organisations is estimated at 232,000 farmers.
- Rather than setting up new organisations we propose to strengthen existing ones that have potential to improve. This is judged by looking at procurement performance. 32% of farmers are member of such organisations. These could phase into this programme component over 3 years' time.

BY WORKING WITH THE BEST FARMER ORGANISATIONS, VOLUMES MARKETED BY THEM COULD BE DOUBLED



Volume marketed through farmer organisations (Mt) and farmers' supply rate (%)



- Expert judgements from the sector set the investment in improving farmer organisations at around 20USD/farmer/year.
- Such improvements come about by increasing the supply rate of farmers from the current 15% to 30% over 6 years.
- Productivity improvements from other interventions help to grow supply further still.
- This investment does not create additional value at sector level, but rather redistributes existing value in the chain with improved farm gate prices as a result.
- In combination with better access to credit, farm gate prices can improve by around 20% from this intervention.

COMMERCIALY, INVESTMENT IN STRENGTHENING FARMER ORGANISATIONS IS NOT VIABLE



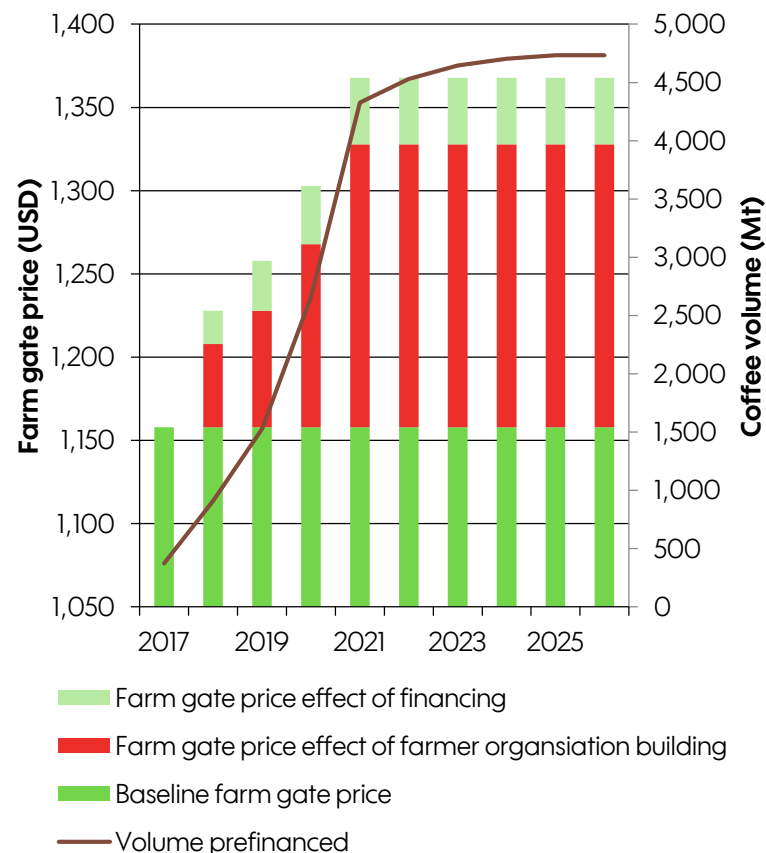
- Given the relatively small volume such organisations handle, even after improvement from this investment, the effect at sector level is limited.
- Weighed against total volume across the sector, the farm gate price effect amounts to 2.91 USD/Mt green coffee.
- For farmers that are part of farmer organisations that function well, the effects can be very significant with increases of up to 170 USD/Mt on top of the 2015 farm gate price level (1,164 USD/Mt).
- Donors that do not seek a commercial return on their investment would be required for this type of intervention.

Indicator	Value (10 years)
Number of farmers in improved farmer organizations in steady state	75,271
Volume of coffee marketed through farmer organizations in steady state (Mt)	12,609
Additional farm gate value per annum in steady state	\$1,149,463
Total investment	\$ 11,855,189
Total value redistribution	\$ 7,522,814
NPV (10%)	\$ -4,117,100
NPV (20%)	\$ -3,510,203

ACCESS TO TRADE FINANCE FOR FARMER ORGANISATIONS CAN FURTHER ENHANCE FARM GATE PRICES AND SUPPLY RATES



Coffee volume financed (Mt) and farm gate price effect (USD/Mt)

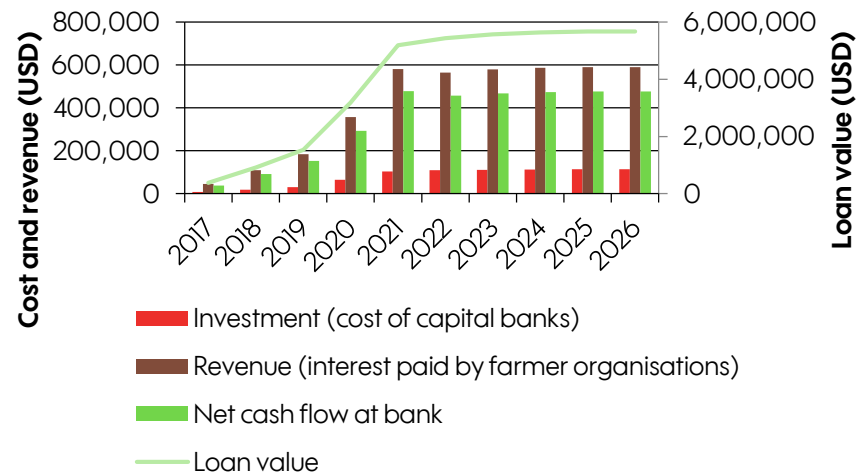


- Once farmer organisations are strengthened, short term pre-financing for trade activities can help to redistribute more value to farmers
- Assuming that 40% of farmer organisations are eligible for trade finance, growing to 70% by year 5, this would result in pre-financing 4,733 Mt coffee in steady state.
- In combination with the effects of farmer organisation building, farm gate prices could increase from 1,158 USD/Mt to 1,368 USD/Mt
- This investment does not create new value, but rather facilitates redistribution from downstream segments of the value chain to farm level.
- This could be of interest to impact investors that want a commercial and social return on investment

PROVIDING TRADE FINANCE TO WELL-RUN FARMER ORGANISATIONS CAN BE AN ATTRACTIVE PROPOSITION FOR BANKS



Trade finance value (USD) and coffee volume (Mt)



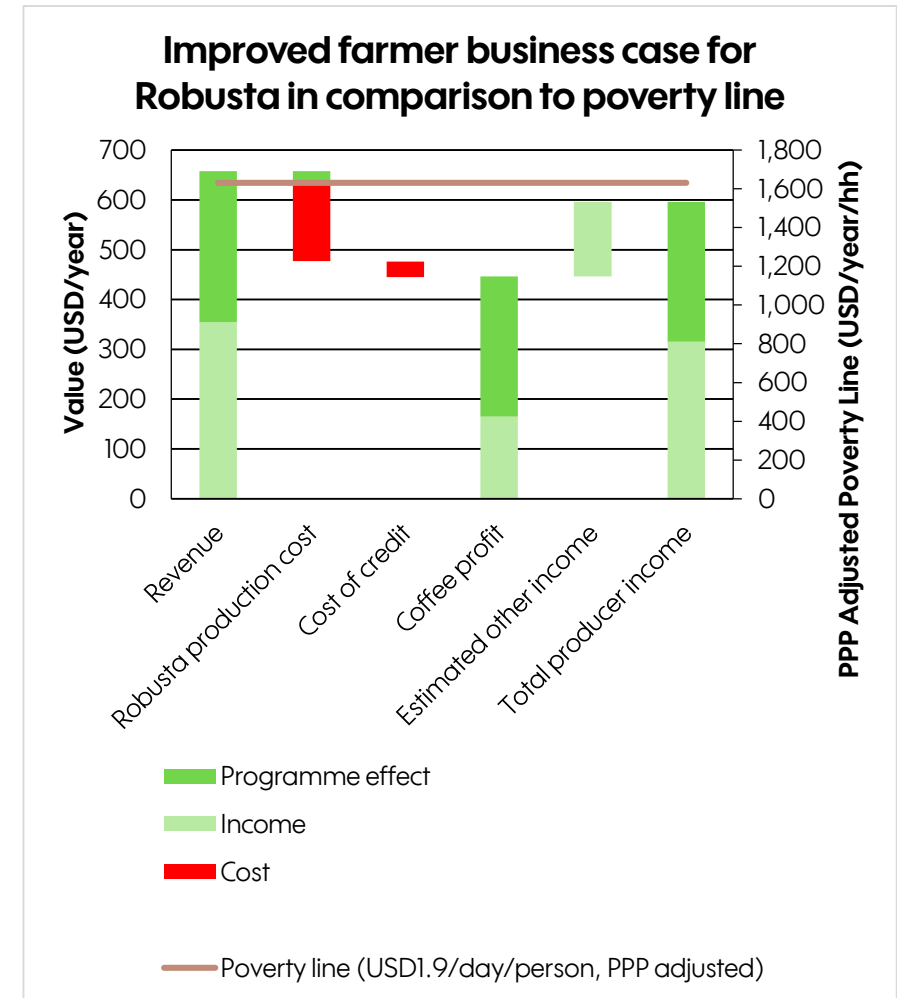
Indicator	Value (10 years)
Volume of coffee pre-financed p.a. in steady-state (Mt)	4,733
Loan size in steady-state p.a.	\$ 5,679,698
Total investment (cost of capital for banks) over 10 years	\$ 784,173
Total return	\$ 4,189,743
NPV (10%)	\$ 2,242,632
NPV (20%)	\$ 1,322,866

- Farmer organisations pay 3% per month with trade finance tenures of 4 months. The bank's cost of capital is assumed to be 0.5% per month.
- This model assumes that interest rates for farmer organisations can go down to 2.6% by year 6.
- Pre-finance requirements are 1,000 USD/Mt going up to 1,200 USD/Mt by year 4.

SIGNIFICANT POSITIVE IMPACT ON FARMERS, BUT OTHER INCOME NEEDED



- The 5 investment opportunities that show a positive return can have a significant impact on farmer livelihoods, improving annual coffee profit by 70% to 281 USD/farm.
- Total producer income would then increase to 596 USD/household.
- This however is still not sufficient for a full farming family in relation to the poverty line (value of home consumption of other crops not factored in).
- To lift farmers out of poverty, further income is needed. A 2.7-fold increase in income would be needed for that. Given the fact that farm sizes have been decreasing over time, such improvement is unlikely to come from bringing new land under cultivation.
- A 2.7-fold improvement in productivity is feasible bio-physically, but very unlikely given constraints of access to inputs and lack of irrigation.

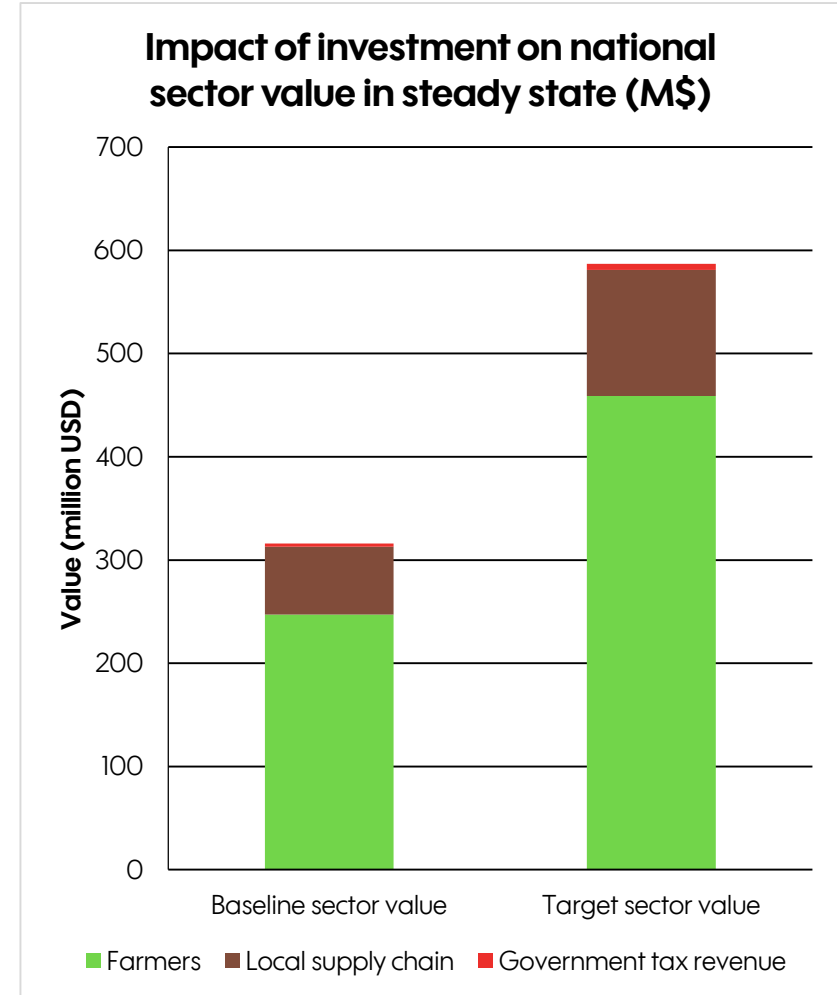


NATIONAL BUSINESS CASE: SIGNIFICANT INCREASE IN SECTOR VALUE FOR ALL



Summary	USD over 10 years
Total investment	\$ 176,275,827
Total return	\$ 1,788,167,548
NPV (10%)	\$ 829,885,395
NPV (20%)	\$ 469,230,202

- Investment in coffee can significantly increase the sector value for all actors in the value chain. The majority of value flows into the rural economy.
- As productivity improves, local supply chains benefit, primarily from additional supply.
- Export tax (cess) could be temporarily increased to 3% to finance part of the programme, bringing it down again to 1% by year 9.

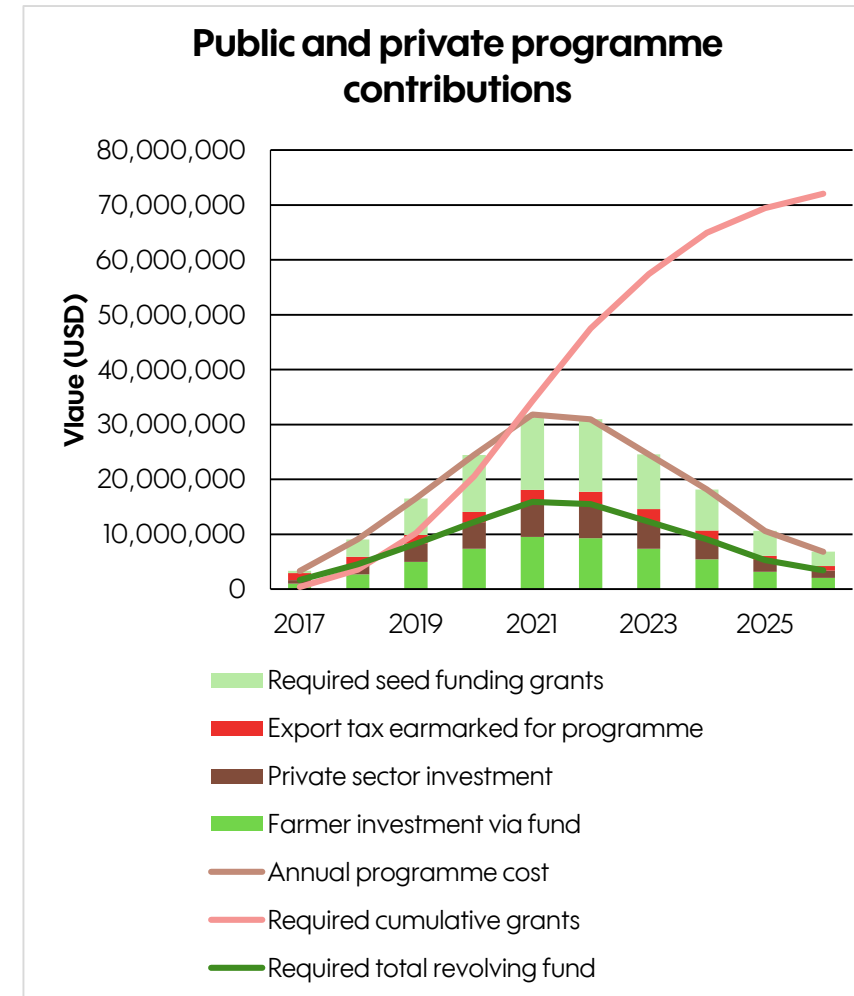


INVESTMENT SHARED BY NATIONAL GOVERNMENT, PRIVATE SECTOR, GRANTS



- Assuming that 66% of export tax (cess) invested after rate is increased from 1% to 3%, a significant share of the investment can come from the local industry.
- Private sector investment by farmers (mainly inputs) and buyers/traders (training, processing), financed from ACF revolving fund and/or commercial funds. ACF conditions need to be competitive compared to current financing.
- Grants are needed as initial seed funding to fill the funding gap and allow investment in farmer organisation building.
- Leverage industry and government investment to attract roasters, donors and banks.

Summary	Value
ACF revolving fund size	\$ 15,898,804
Required grant funding	\$ 72,079,602
Required grant funding %	41%
Required national budget (% of export tax invested)	66%





CONCLUSIONS

- The coffee sector contributes a small part of GDP in Uganda (1.14%) and this is likely to remain so as other sectors of the economy show stronger growth rates. Social importance of coffee is far greater than its share of GDP suggests; 1.32 million families rely on it in part for their income, but an estimated 700,000 farmers dominate the sector.
- There is significant potential to increase coffee sector value in Uganda through selective investment in farmer training, farm rejuvenation, use of inputs, farmer organisation building and providing credit to farmer organisations. Productivity can increase by 86% from 0.68 Mt/ha to 1.27 Mt/ha. The increased value largely flows into rural economy.
- Coffee alone will not provide sufficient income for a full farmer household, under current conditions it appears unlikely that the gap to the poverty line can be met with agricultural activities. It is unlikely that farmers will be lifted out of poverty in the short- to mid-term, despite investments.
- Total programme investment amounts to an estimated 176 million USD over 10 years that would generate a return across the sector of >1.79 billion USD at current prices.



Sources

Global Coffee Platform, Sucafina, Olam, Hanns R. Neumann Stiftung, Kyagalanyi, Café Africa, Uganda Coffee Development Authority, Jacobs Douwe Egberts, Lavazza, Nestle.

Data

US Department of Agriculture, Food and Agriculture Organisation, International Coffee Organisation, Uganda Coffee Development Authority, Technoserve, USAID, 4C Association, UTZ Certified, Agri-Logic

About the Global Coffee Platform

The GCP is a collaboration between the 4C Association and the Sustainable Coffee Program of IDH – The Sustainable Trade Initiative. The Global Coffee Platform is an inclusive multi-stakeholder sustainability platform aligning the activities of a diverse network of stakeholders to set into action the global commitments made through Vision 2020 and create a thriving and sustainable coffee sector.

About Agri-Logic

Agri-Logic – management, consultancy and research – operates where agricultural production, development, international trade and consumer markets intersect. We combine a thorough understanding of farm level reality and commodity trade with scientific research skills and a track record in sustainability strategy design and implementation, to help clients deal with sustainability challenges and market requirements.

About Valued Chain

Valued Chain is an independent consultancy. We support organizations in understanding their value chain and stakeholders, identification and mitigation of risks, and realization of opportunities. We believe in integrating commercial objectives with sustainability of the business and its stakeholders. Working from Amsterdam and Lagos, we connect Europe and Africa.