



# ***AFRICAN COFFEE SECTOR***

*addressing national investment agendas on a continental scale*

*Angola Case Study*

Sector study conducted by Agri-Logic and Valued Chain by assignment of  
the Global Coffee Platform  
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# 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.



# 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 ANGOLAN COFFEE SECTOR – EXECUTIVE SUMMARY



- **Coffee volumes have crashed in response to civil war and political unrest.** In the 1970s Angola was the largest coffee producer in Africa with annual volumes >200.000Mt, which was reduced to almost zero in the 1990s. Currently, the oil sector makes up 50% of GDP, 95% of exports, and 75% of government revenue. The country has stabilized since 2002 but needs to revive its agricultural economy from scratch.
- **Current annual production volume is estimated around 13.000Mt** by INCA. The coffee sector strategic plan targets 50.000Mt in five years (2020), realization depends on investment. Domestic consumption is low, and stable over time. Coffee is mainly for export. INCA aims to promote local roasting.
- Around **25.000 producers are active in coffee**, with an average farm size of 1.7 ha. 98% of farmers are smallholders.
- **Robusta differentials have consistently been high at 500USD/Mt.** In the 1970s this was because it was known as one of the most neutral and best quality robustas in the world. Current high differential mainly follows from low availability, while quality has declined significantly. It is expected that high differentials can be maintained if volume increase is paired with quality improvement.
- Currently, **producer price is between 60-70% of FOB**, up from 30-40% of FOB until the early 2000s. Farm gate price as a percentage of FOB is however still among the lowest observed.

# INVESTMENT AGENDA FOR THE ANGOLAN COFFEE SECTOR – EXECUTIVE SUMMARY



- The coffee sector is hardly visible in GDP in Angola, but could be doubled with a positive return of investment. **Coffee can become an example for diversification and relief of post-war rural poverty.**
- There is **significant potential to increase coffee sector value in Angola** through selective investment in farmer training, farm rejuvenation and use of inputs. Productivity can be doubled. The increased value largely flows into rural economy.
- **Coffee profits for smallholder farmers can be doubled.** Coffee alone will not provide sufficient income for a full farmer household, but **diversification is possible** and will also address income volatility.
- Total programme **investment amounts to an estimated 48 million USD over 10 years** that would generate a return across the sector of >170 million USD at current prices.



# ANGOLA

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Previously thriving coffee sector can diversify oil economy and relieve rural poverty

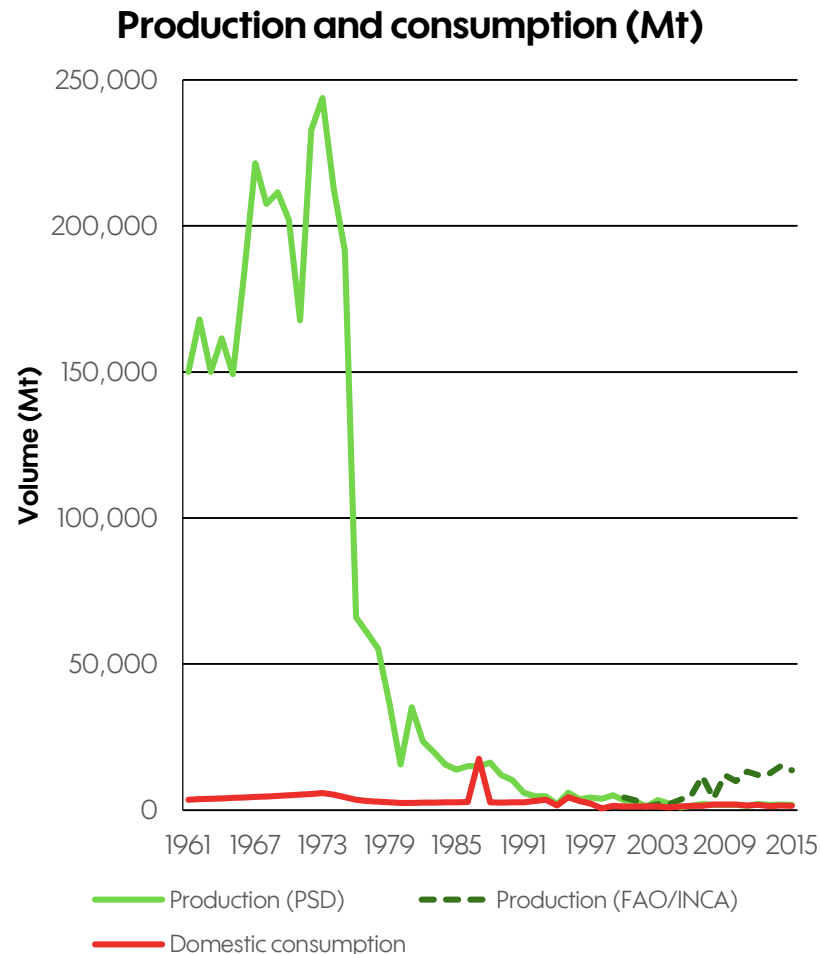
# POSITIONING OF ANGOLA



Item	Value
Total volume (3 year average)	13,730 Mt
% of global production	0.15%
Arabica – Robusta	Robusta
natural – semi-washed – fully washed	Natural
Compound Annual Growth Rate of coffee production (2000-2015)	7.5% (after sharp decline, coffee sector is growing in last decade)
Main export markets	Portugal, Spain, Mozambique
Market segments	Robusta
GDP	184.4 billion USD
GDP – agriculture	0.7 billion USD
GDP – coffee	0 billion USD



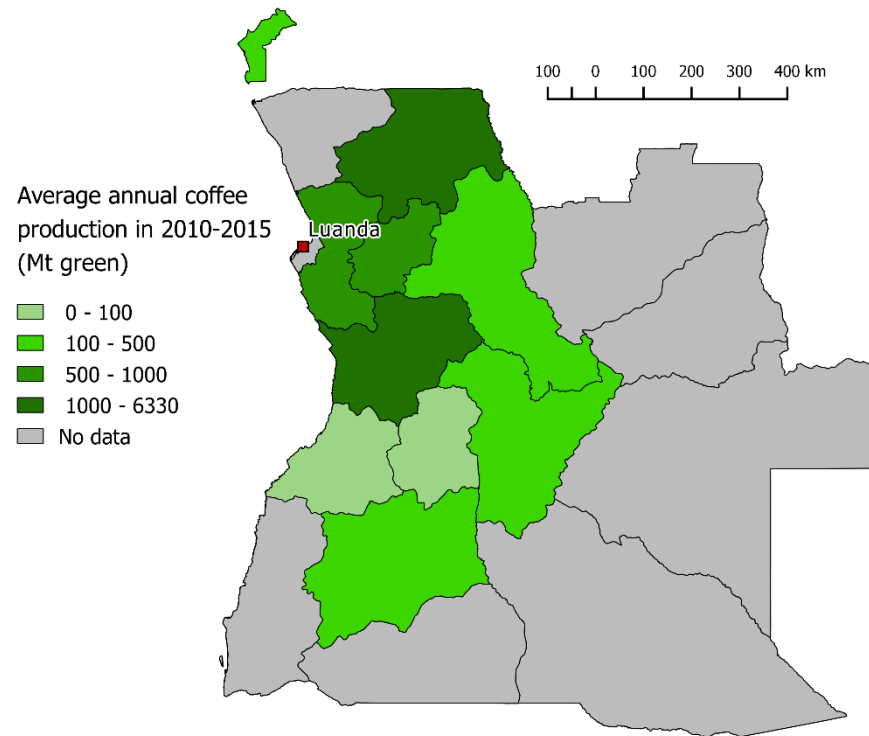
# ANGOLA COFFEE VOLUMES CRASHED SINCE THE 1970s



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- Current annual production volume is estimated around 13.000Mt by INCA. The coffee sector strategic plan targets 50.000Mt in five years (2020), realization depends on investment.
- Domestic consumption is low, and stable over time. Coffee is mainly for export. INCA aims to promote local roasting.

Sources: USDA, Deutsche Bank, INCA, interviews, AL and VC analysis

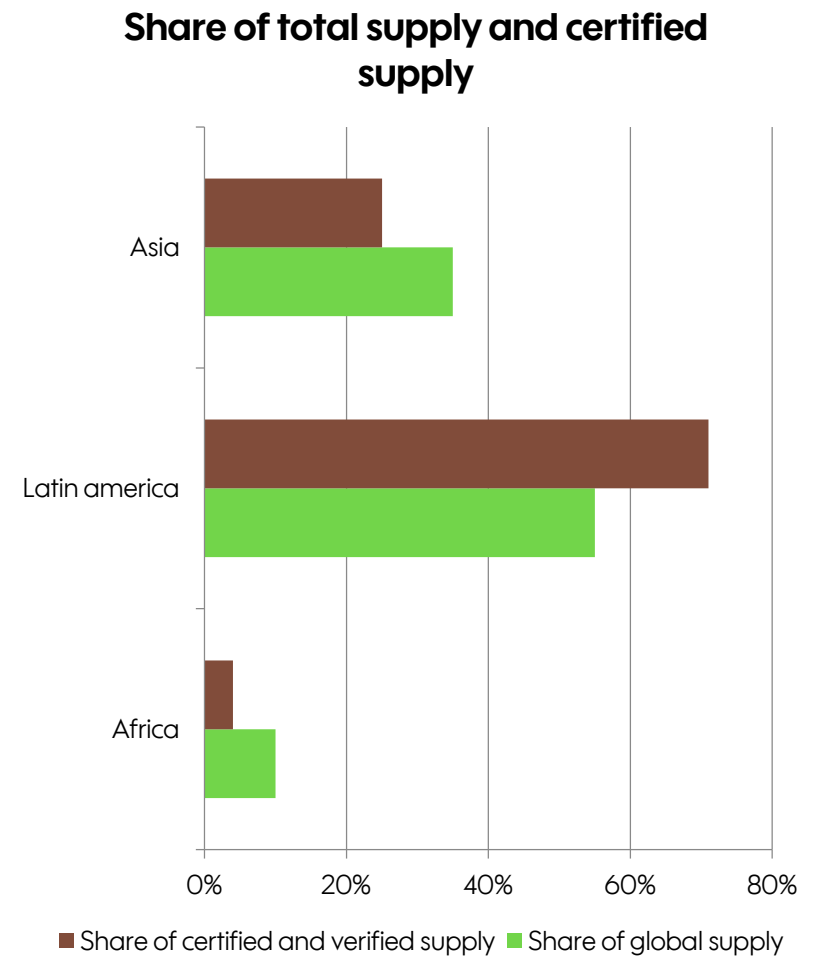
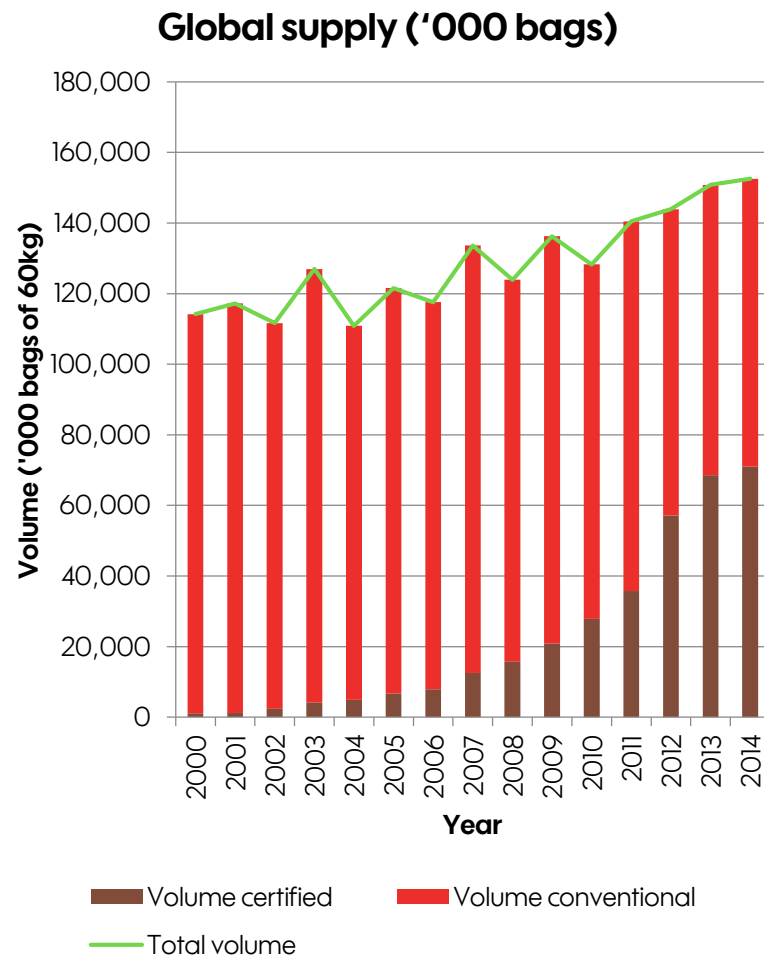
# ANGOLA CURRENT AND HISTORICAL COFFEE PRODUCTION AREAS



- Revival of coffee started in Kwanza Sul with a state initiative sponsored by CFC, and is now slowly reintroduced in other areas.
- Current production is mainly Robusta, whereas historically, small volumes of Arabica were produced.
- Former coffee producing regions are current important areas for biodiversity, and reviving coffee production needs to carefully take environment into account.

Sources: CABI, INCA, USAID interviews, TNS, AL and VC analysis

# AFRICA LAGGING IN SHARE OF CERTIFIED SUSTAINABLE SUPPLY

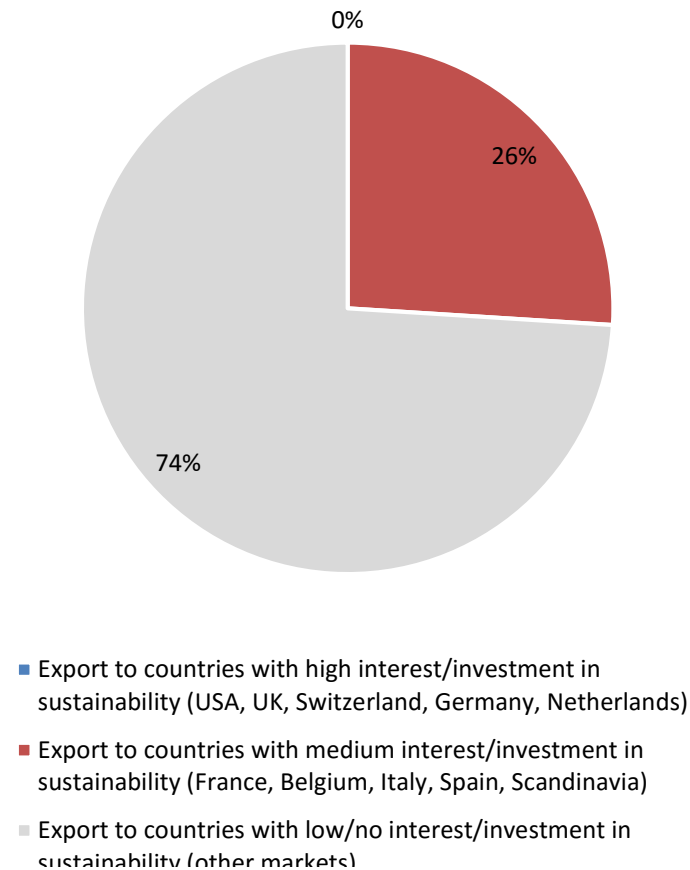


Sources: USDA, CTA, AL and VC analysis

# MARKET INTEREST IN SUSTAINABILITY CAN BE DEVELOPED IF VOLUMES RECOVER



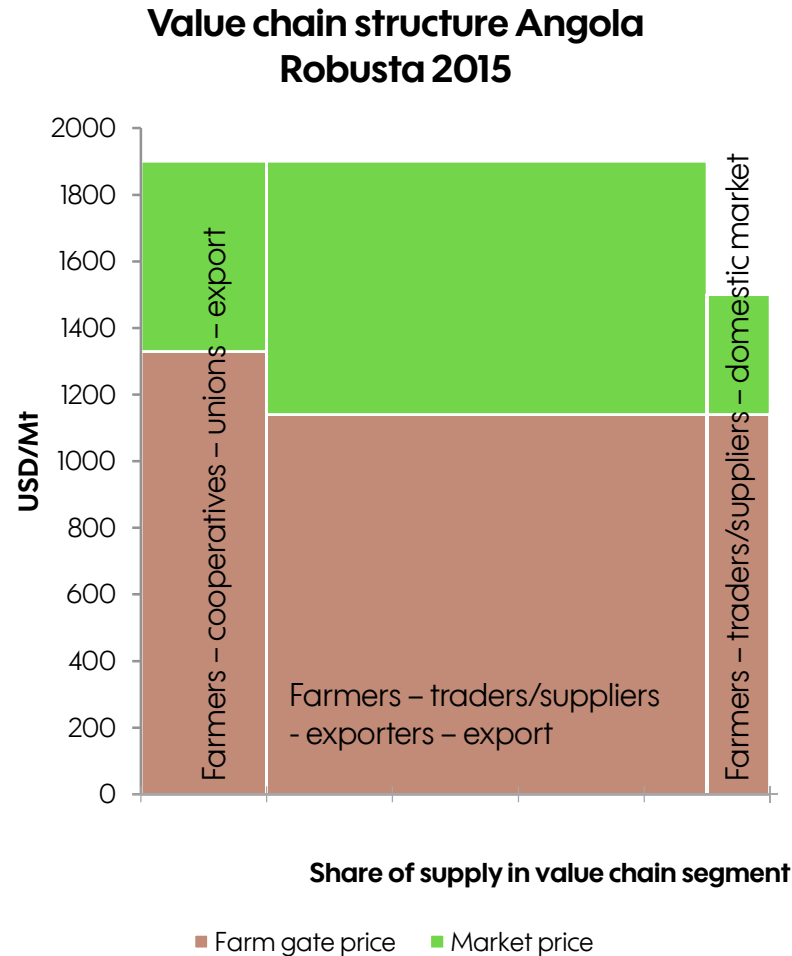
**Angola exports (% of total) and market interest to invest in sustainability in destinations**



- Currently almost all coffee exported from Angola is shipped to Portugal and Spain.
- In the 1970s, North America and countries throughout Europe were active buyers of Angolan robusta.
- Even though Angolan robusta is not a current part of the blend for most roasters, several large roasters in North America and Europe have expressed an interest in buying if quality and volumes recover. This could be paired with sustainability investments in the supply chain.
- No sustainability certification or verification has been reported for Angola.

Sources: OEC, , VC and AL analysis

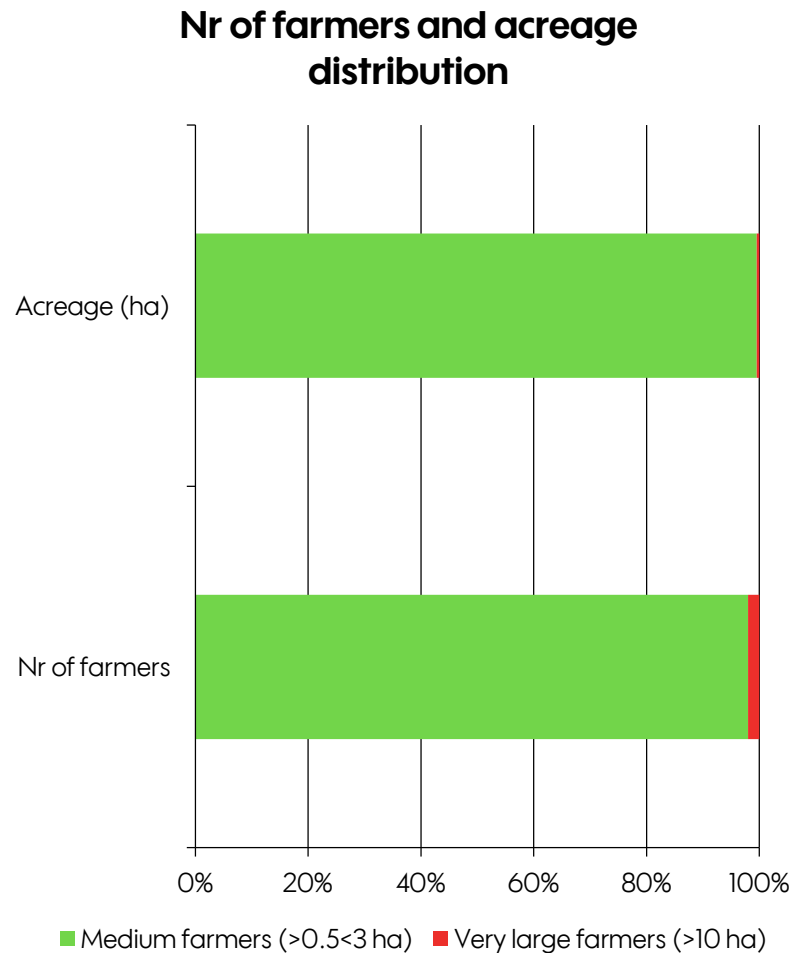
# NEW MARKET CHANNELS ARE LIKELY TO DEVELOP WITH VOLUME GROWTH



- Market price is characterized by high differentials. Farm gate price was <40% of FOB around 2005, but has steadily increased based on a focus on coffee and cooperatives strengthening. Cooperatives realize a higher farm gate price compared to local traders/suppliers.
- Due to very low total volume, market shares between the different channels can vary largely between years.
- INCA and CFC project has realized formation of cooperatives in Amboim.
- Plantations were common in the 1970s and may be reintroduced with reviving the coffee sector.

Sources: INCA, CFC, Jorana, AL and VC analysis

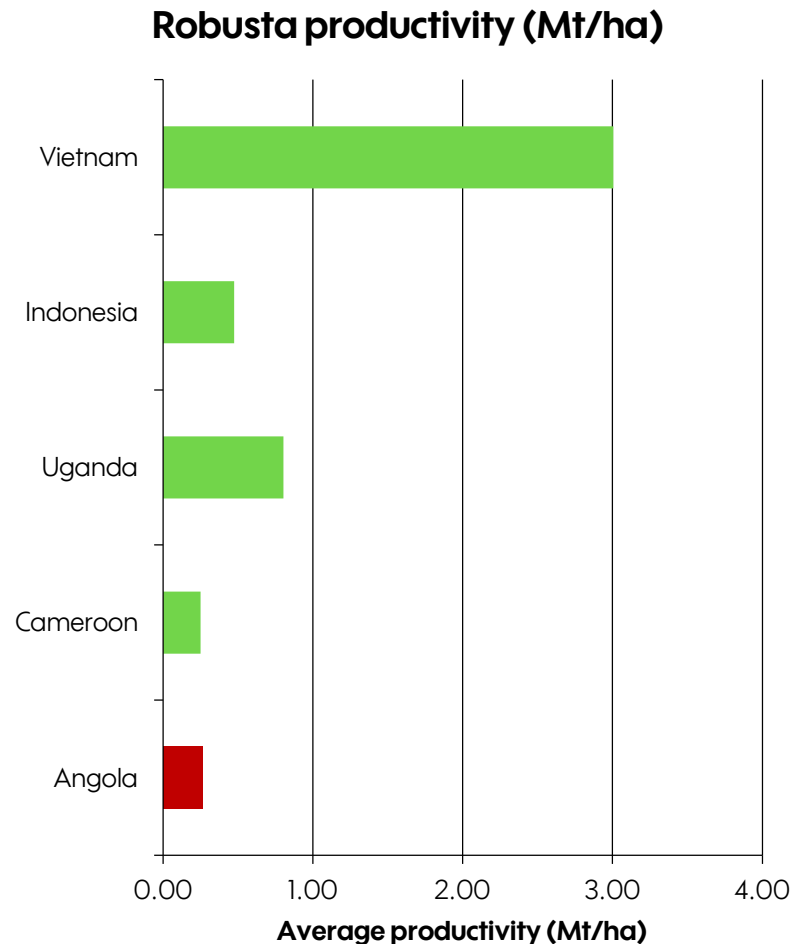
# SECTOR DOMINATED BY SMALLHOLDER FARMS



- Average farm size: 1.7 ha.
- 98% of farmers are smallholders, with only a few larger farming enterprises who own on average 20ha.
- Currently around 25.000 producers are active in coffee, on 52.000 ha.

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

# CURRENT PRODUCTIVITY LEVELS ARE VERY LOW BUT SHOW POTENTIAL TO INCREASE



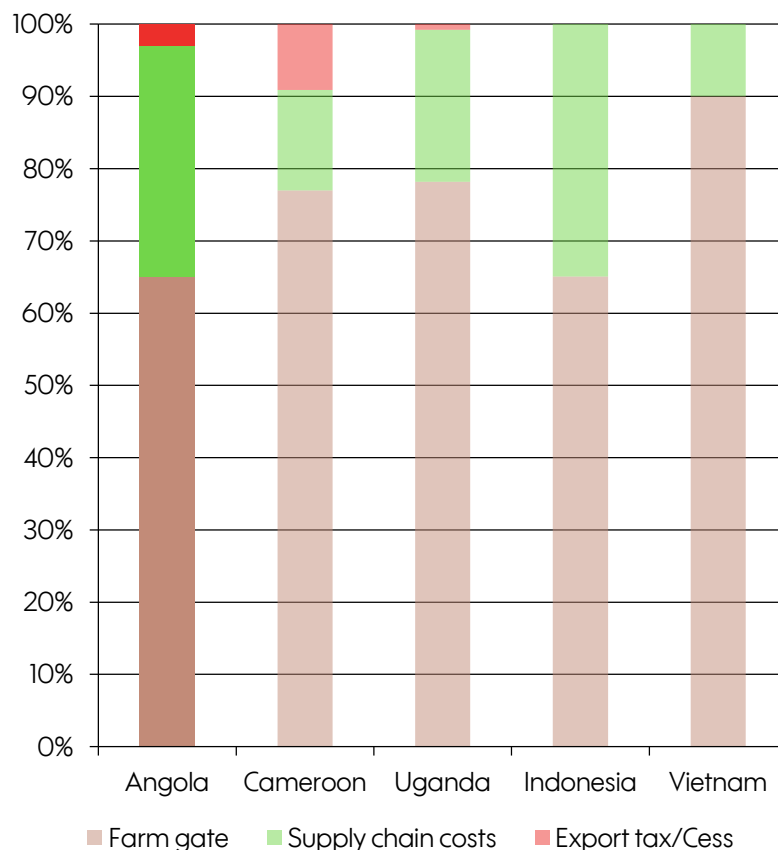
- Robusta productivity is estimated around 260 kg/ha on average.
- However, there are large differences between old farms (<100kg/ha) and rehabilitated/well-maintained farms (400-500kg/ha).
- This is a fraction of productivity in Vietnam currently at 3MT/ha.
- Historically, productivity was around 500 kg/ha in the 1970s, very high at that time. Productivity in Angola could increase further, surpassing 1 Mt/ha appears to be feasible.

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

# LOW PRODUCER PRICE BUT SUPPLY CHAIN EFFICIENCY IMPROVES



**Value distribution Robusta (% of FOB price)**

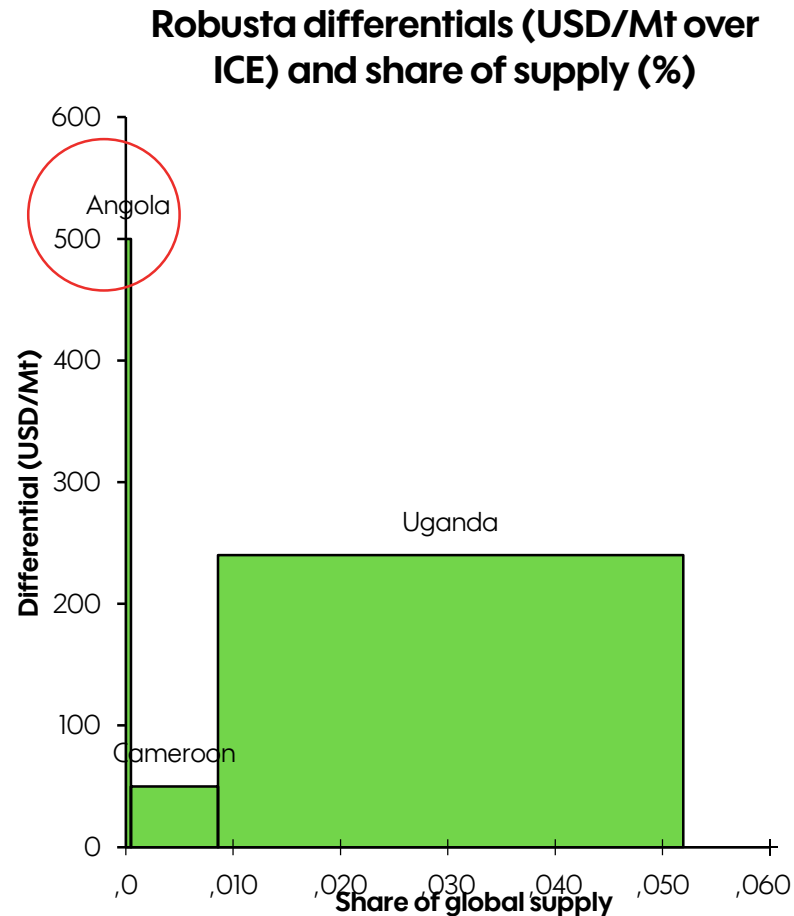


- Currently, producer price is between 60-70% of FOB. Given the high price of Angolan coffee in the market, this puts farm gate prices higher than in other origins.
- Historically, the government determined minimum prices based on one third of the value to each key actor: producer, trader and exporter. At the time, farm gate prices were 30-40% of FOB.
- This policy was changed in the early 2000s, when a partnership with CFC specifically aimed to increase producer price, resulting in more value to the farmers.
- Farm gate price as a percentage of FOB is however still among the lowest observed.
- 3% export tax is used by INCA to reinvest in smallholders. INCA is currently developing tax incentives for new investments in the coffee sector.

Sources: ICO, INCA, interviews, TNS, AL and VC analysis



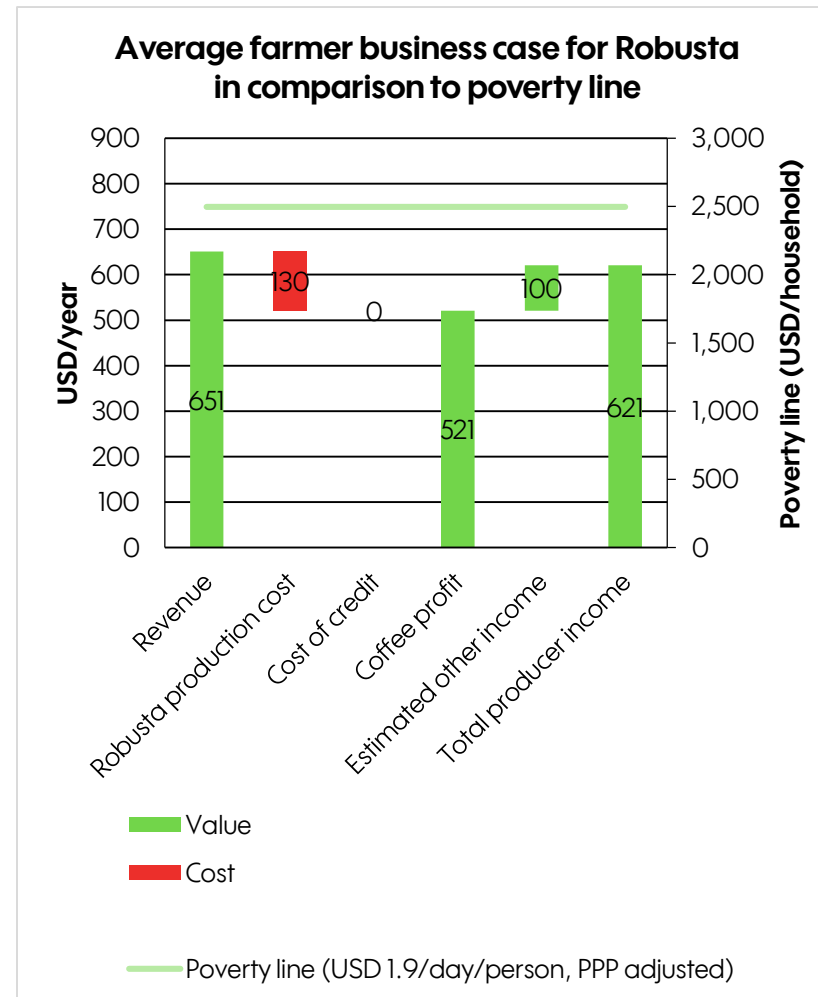
# DIFFERENTIAL HIGH, AND COULD BE MAINTAINED IF QUALITY IS MANAGED



- Robusta differentials have consistently been high. In the 1970s this was because it was known as one of the most neutral and best quality robustas in the world. Current high differential mainly follows from low availability, while quality has declined significantly.
- It is expected that high differentials can be maintained if volume increase is paired with quality improvement.
- 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: ICO, HRNS, USDA, interviews, AL and VC analysis

# FARMING HOUSEHOLDS LIVE IN POVERTY, NEED FOR YIELD AND DIVERSIFICATION



- 90% of smallholder farms in Angola are monoculture. This results in low and volatile incomes.
- Post-war challenges have resulted in single-parent, women-headed households, reducing the opportunity to pursue off-farm income through labour.
- With an average household size of 6 people, coffee farming provides an income of ~USD621 far below the poverty line of ~USD2.500.

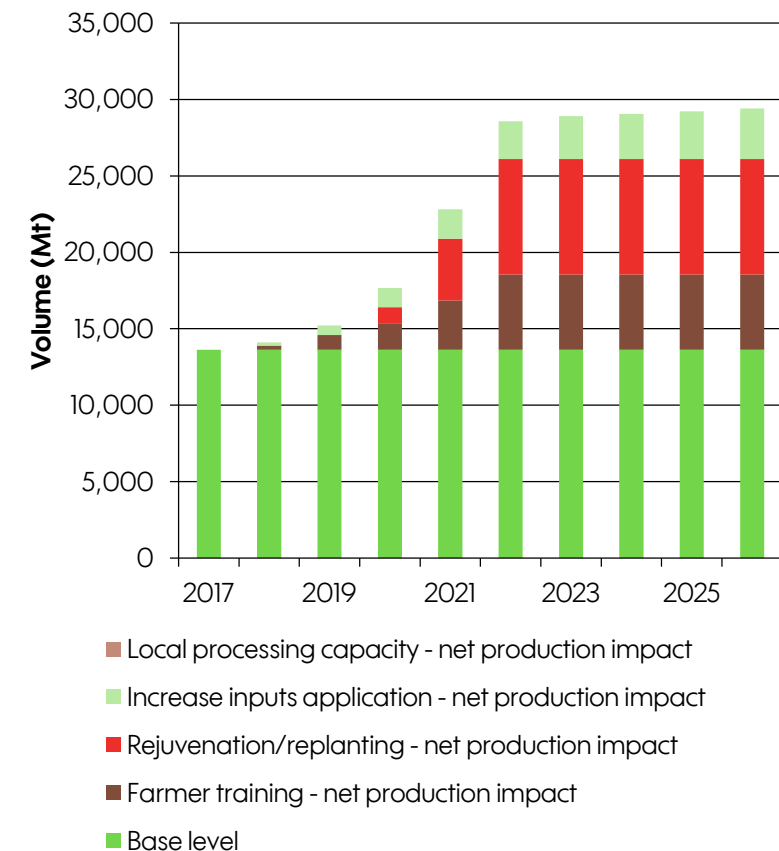
Sources: Interviews, USDA, CFC, CARE, IFAD, AL and VC analysis

# MODELLING INVESTMENT OPPORTUNITIES – PRODUCTION EFFECTS



- Modelling 4 opportunities:
  - Farmer training
  - Rejuvenation/replanting
  - Increasing input application
  - Local processing
- A combination of first 3 interventions could double existing volumes based on the current farmer base.
- Government ambition is a larger and faster growth, reviving coffee volumes to 50,000Mt in 2020. This can be feasible with extra investment. Further volume increase is possible based on increasing participation and expanding to new farm land.

**Production effect of investment opportunities**

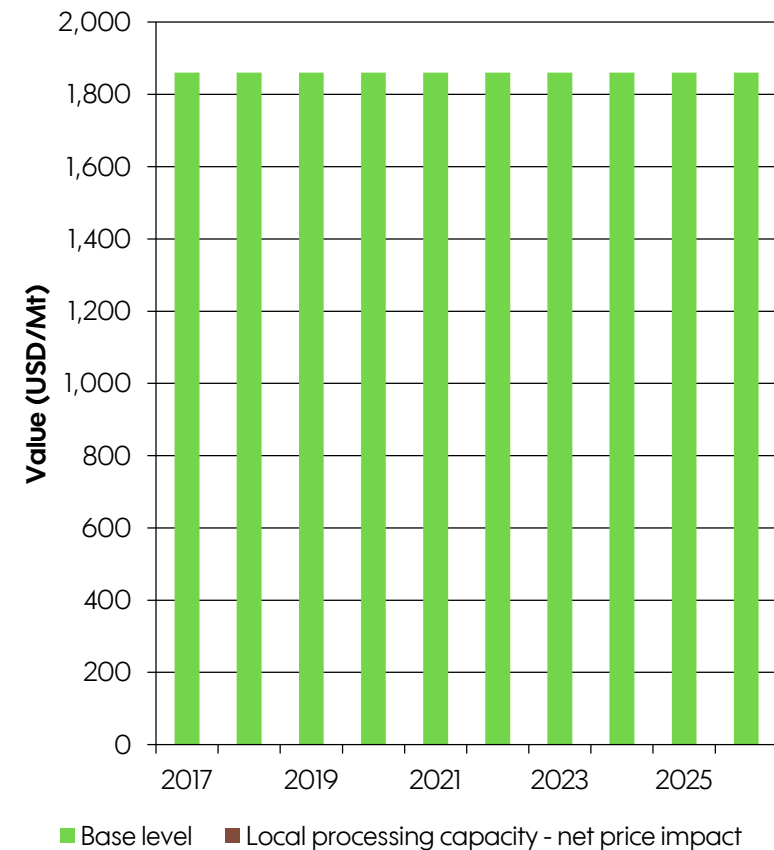


# MODELLING INVESTMENT OPPORTUNITIES – PRICE EFFECTS



- Investment in local processing capacity is foreseen
- Export price will not be affected by these investments.
- Investment in local processing capacity is needed to maintain export prices at current levels relative to ICE.

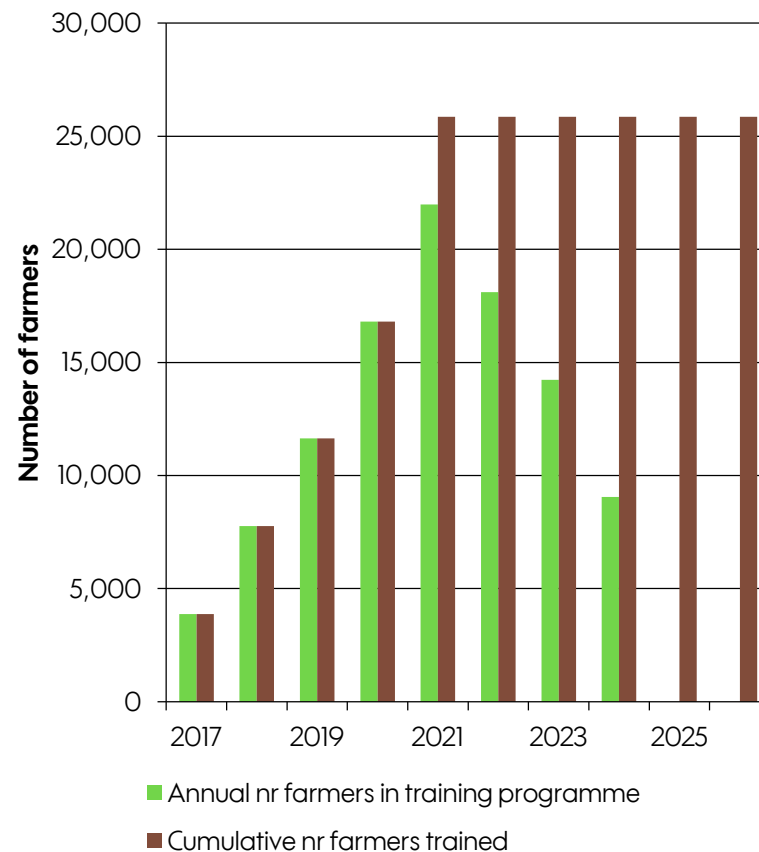
**Export price effect of investment opportunities**



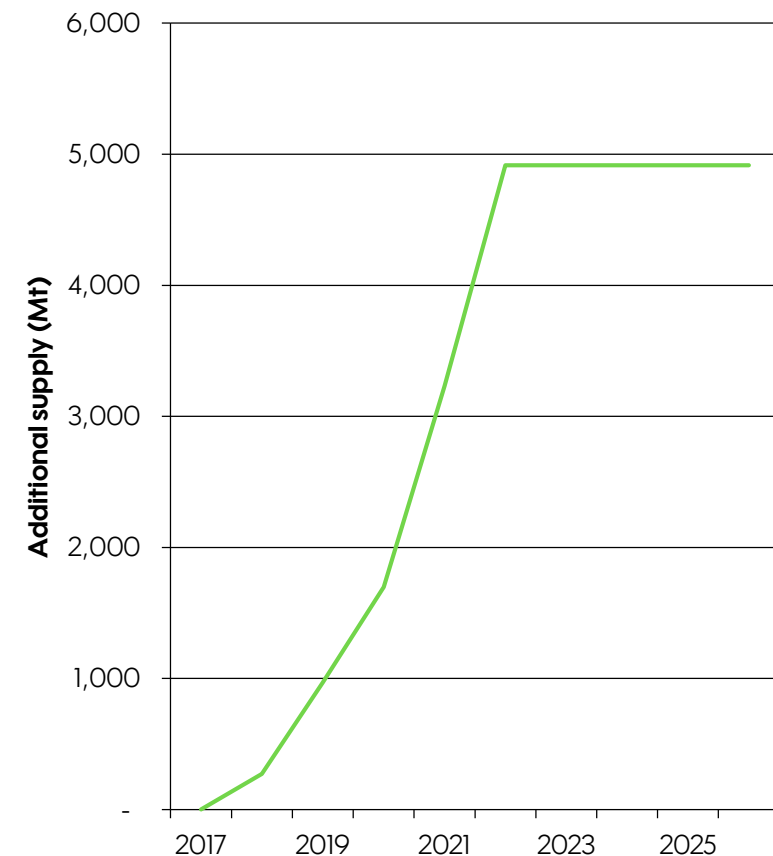
# FARMER TRAINING INVESTMENT CAN GROW CURRENT SUPPLY BY 30%



**Number of farmers enrolled in training program**



**Additional supply from farmer training programme (Mt)**



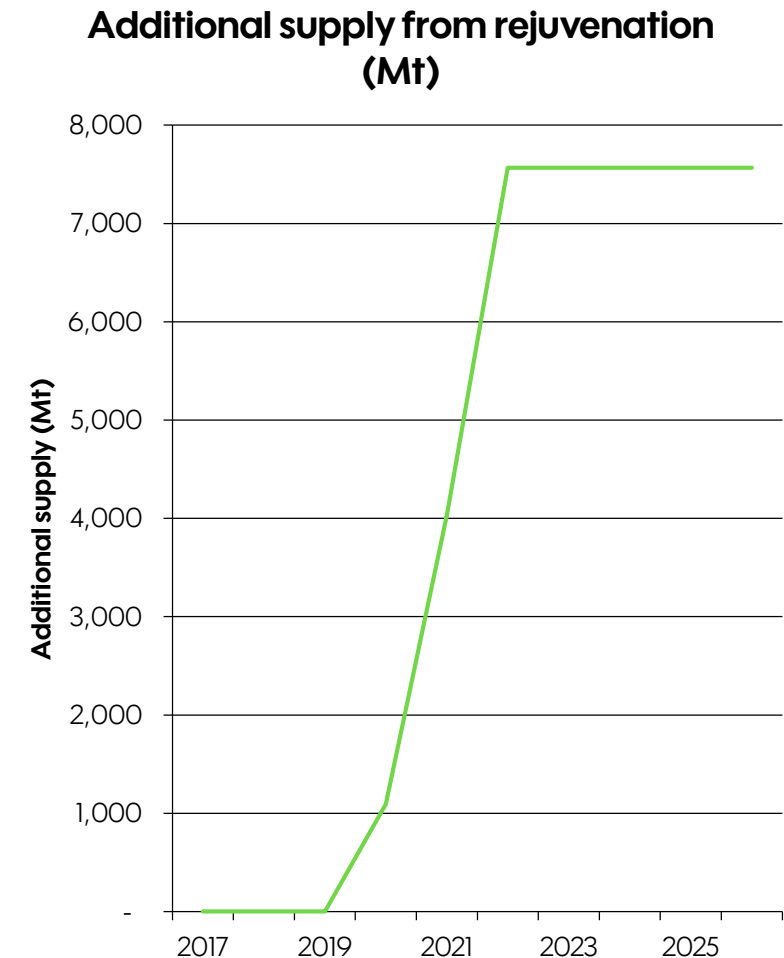
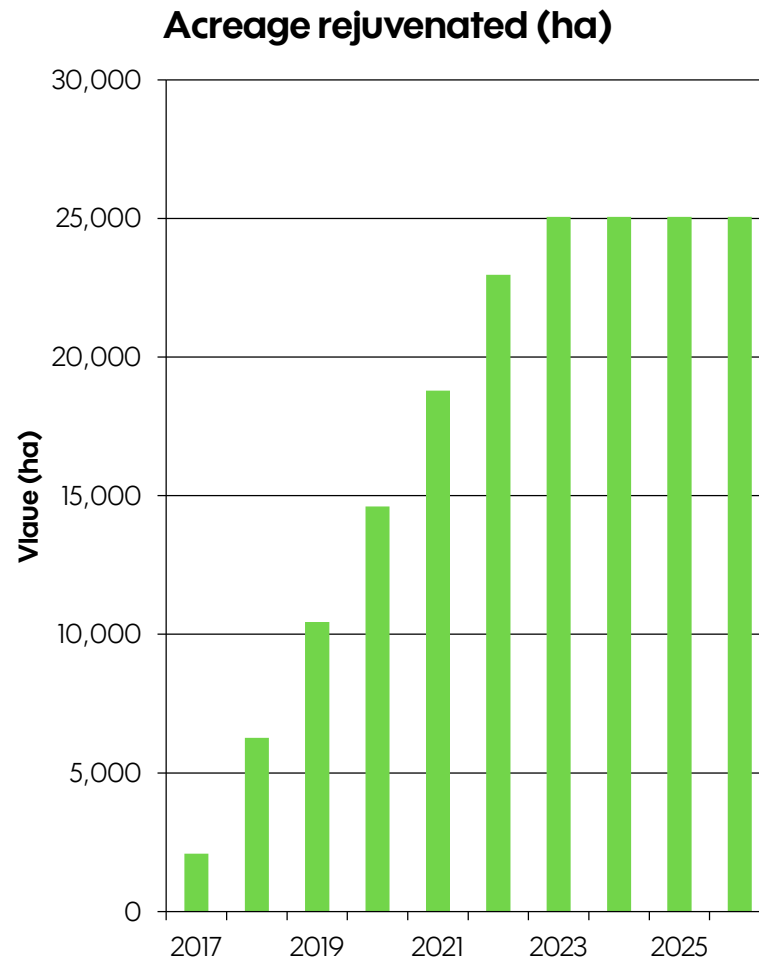
# FARMER TRAINING OFFERS POTENTIALLY EXCELLENT RETURNS ON INVESTMENT



- Relaunching coffee in Angola, with limited local training capacity available, comes at a relatively high investment per farmer of \$600.
- Even with this investment, the 30% yield increase offers excellent returns and a positive NPV.
- We assume training of all existing coffee farmers, whereas it would be possible to even consider increasing the number of farming households.

Indicator	Value (10 years)
Cumulative nr of farmers reached	25,863
Additional volume coffee per annum in steady state (Mt)	4,916
Total investment	\$ 15,517,800
Total return	\$ 57,195,752
NPV (10%)	\$ 19,349,538
NPV (20%)	\$ 9,656,230
Investment per farmer	\$ 600

# REJUVENATION IS WIDELY NEEDED AND TAKES A WHILE TO SHOW EFFECTS...



## ...BUT RETURN ON INVESTMENT IS POSITIVE

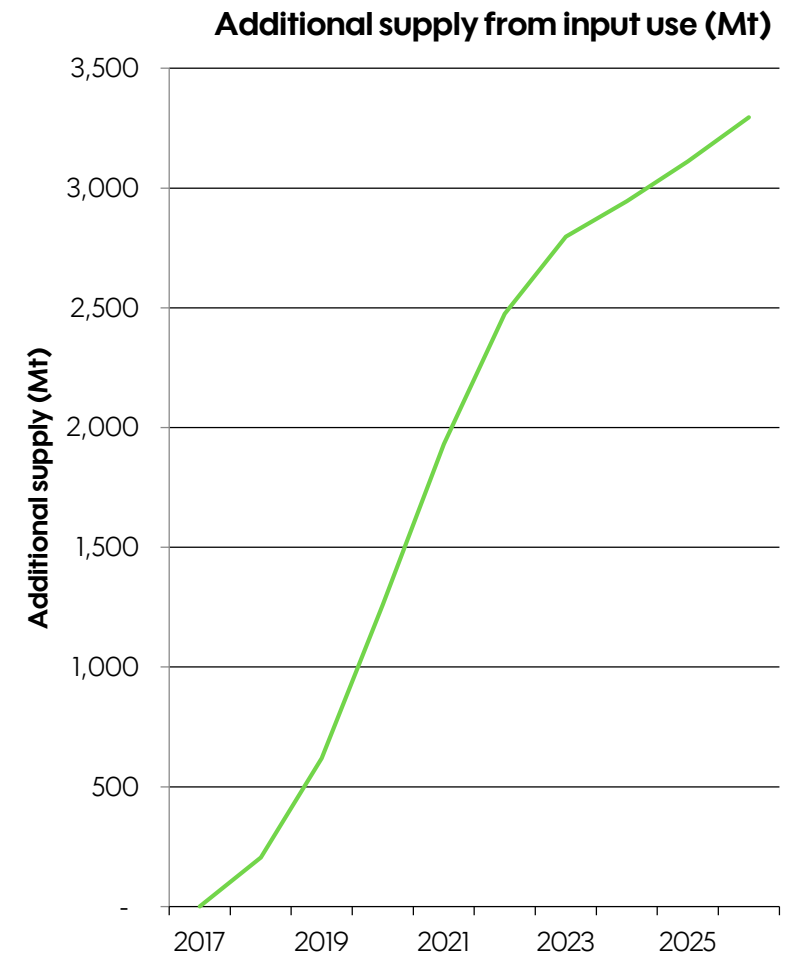
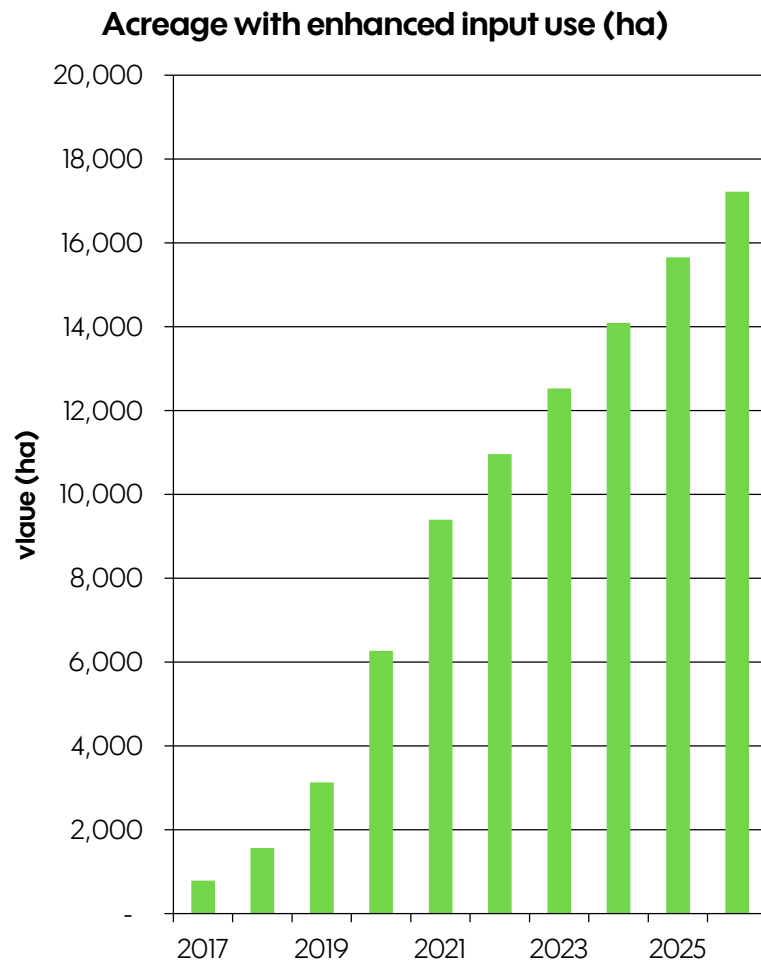


- In a large abandoned coffee sector, replanting comes at a high cost but with significant yield increase.
- We assume adoption of replanting on half of the current coffee area, although expansion can be considered.
- Once concluded, supply could increase with 8,000MT.

Indicator	Value (10 years)
Cumulative acreage replanted (ha)	25,056
Additional volume coffee per annum in steady state (Mt)	7,567
Total investment	\$ 22,968,000
Total return	\$ 79,908,874
NPV (10%)	\$ 25,589,447
NPV (20%)	\$ 12,103,572
Investment per ha	\$ 917



# ADOPTION OF INPUTS USE WILL BE GRADUAL AS FARMER INCOMES ARE LOW



# RETURN ON INVESTMENT IS POSITIVE, CONTRIBUTING TO VOLUME GROWTH



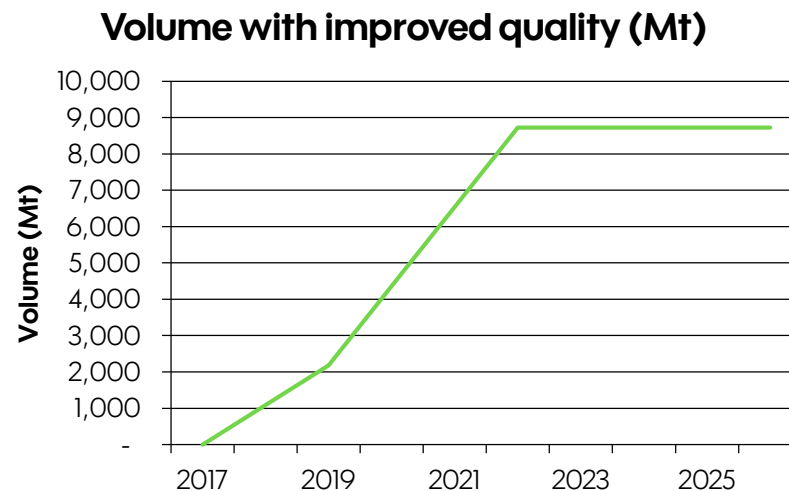
- Small-scale farmers tend to be risk averse as one failed crop is enough to undermine their living conditions.
- Fertiliser investment can be risky, but farmers would have to finance 20%-30% from equity.
- Inputs cost per ha for large plantations in Angola currently stand around \$ 250, a lower investment per ha is assumed for smallholders.
- Only farmers that are part of the training programme should make use of the additional input supply investment to ensure optimal use.

Indicator	Value (10 years)
Acreage using additional inputs in steady state (ha)	17,226
Additional volume coffee per annum in steady state (Mt)	3,295
Total investment	\$ 9,161,100
Total return	\$ 34,670,721
NPV (10%)	\$ 12,958,968
NPV (20%)	\$ 7,223,451
Investment per ha per year	\$ 100

# INVESTMENT IN PROCESSING CAPACITY NEEDED TO MAINTAIN DIFFERENTIALS



- Whereas investment in processing capacity is not likely to increase market price, it is perceived as a requirement to maintain high differentials when volumes are increased.
- This cost will need to be absorbed by exporters and local hullers, and reduces their margin.

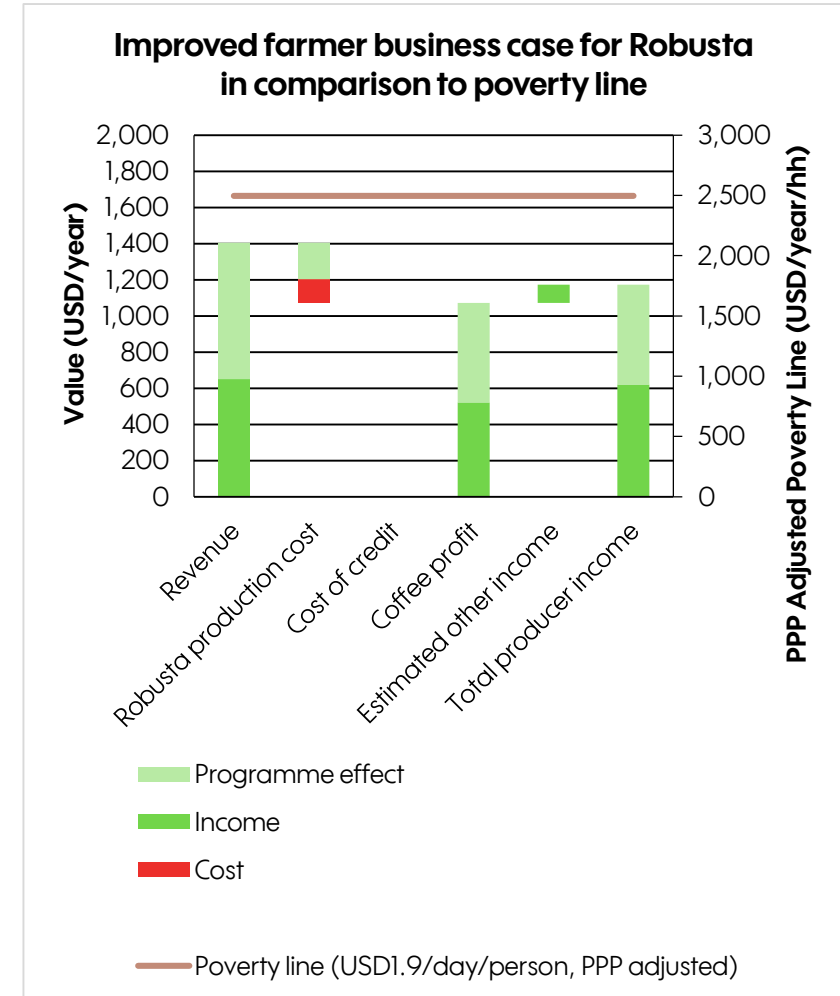


Indicator	Value (10 years)
Volume of improved quality per annum in steady state (Mt)	8,723
Additional value of improved quality per annum in steady state	\$-
Total investment	\$1,155,824
Total return	\$-
NPV (10%)	-\$ 602,269
NPV (20%)	-\$ 344,719
Investment per Mt	\$ 20

# SIGNIFICANT POSITIVE IMPACT ON FARMERS, BUT TO BE DIVERSIFIED



- The 5 investment opportunities that show a positive return can have a significant impact on farmer livelihoods, doubling annual coffee profit.
- 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. This is feasible from diversification and creation of rural employment.
- Diversification will also increase resilience.

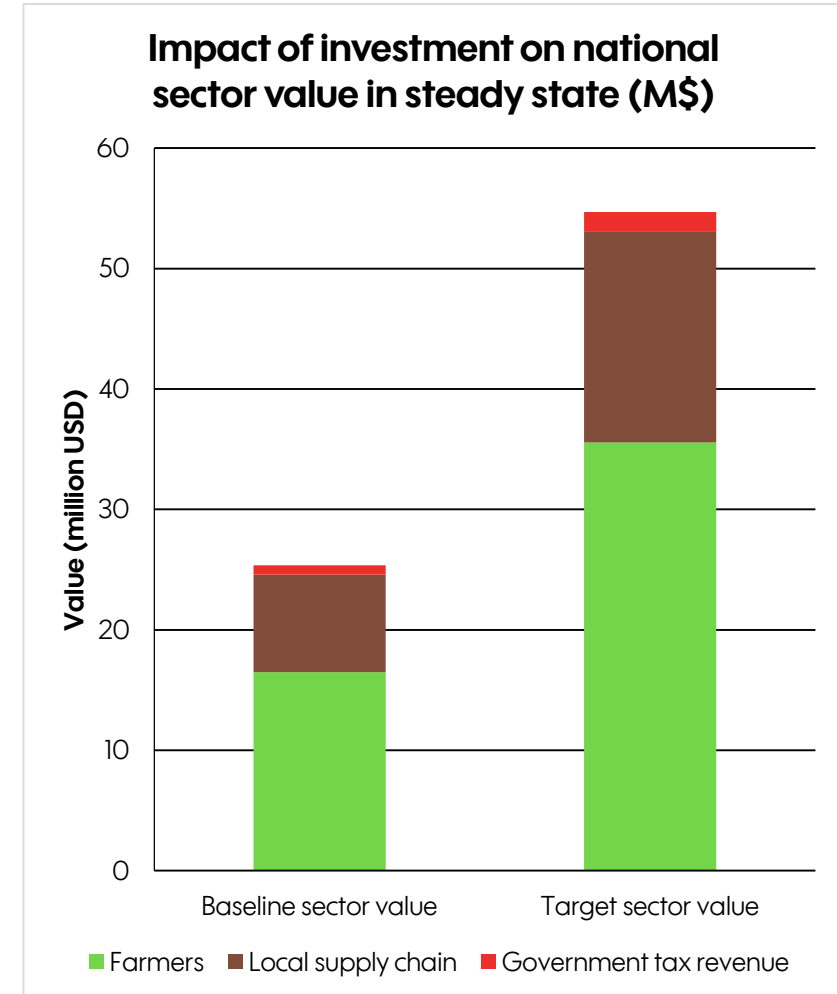


# NATIONAL BUSINESS CASE: SIGNIFICANT INCREASE IN SECTOR VALUE FOR ALL



Summary	USD over 10 years
Total investment	\$ 48,802,724
Total return	\$ 171,775,347
NPV (10%)	\$ 57,295,684
NPV (20%)	\$ 28,638,534

- 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.

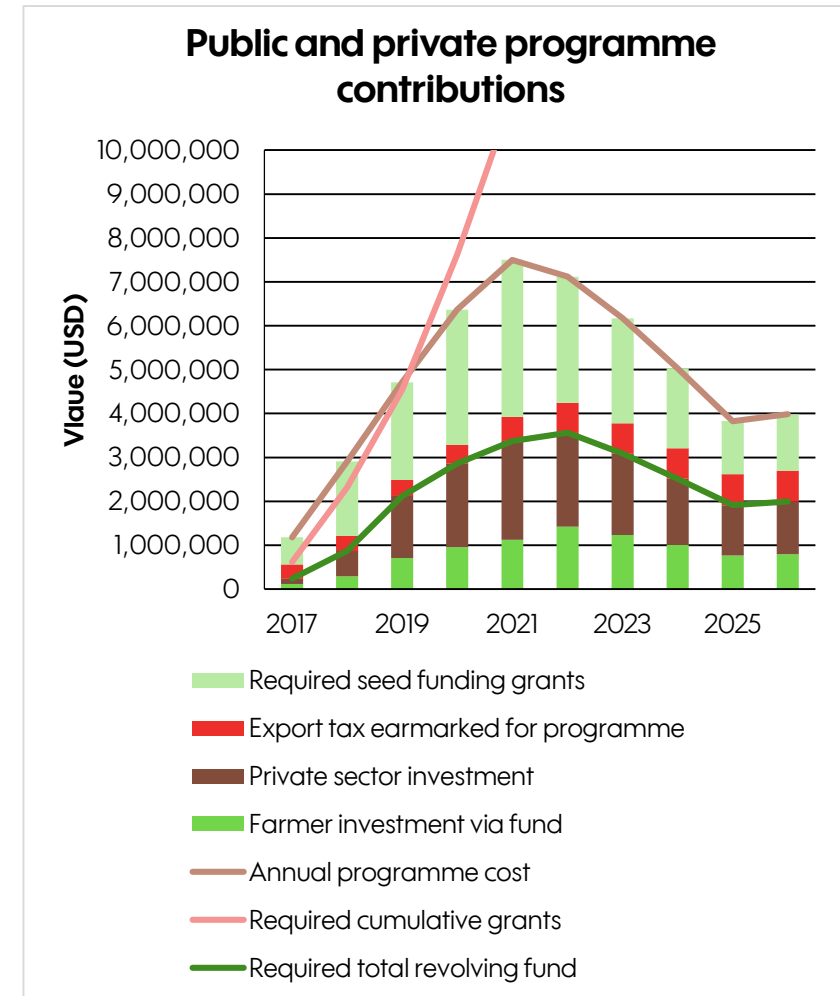


# INVESTMENT SHARED BY NATIONAL GOVERNMENT, PRIVATE SECTOR, GRANTS



- High willingness to invest export tax revenues in smallholder support programs, but with low volumes availability of government funding is limited.
- Farmer investment increasing over time as equity accumulates. Private sector interest exists and is likely to follow public investments.
- 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.
- Grants are needed as initial seed funding to fill the funding gap.

Summary	Value
ACF revolving fund size	\$ 3,559,140
Required grant funding	\$ 20,779,011
Required grant funding %	43%
Required national budget (% export tax)	80%



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.



## CONCLUSIONS

- Previously thriving coffee sector can diversify oil economy and relieve rural poverty.
- The coffee sector is hardly visible in GDP in Angola, but could be doubled with a positive return of investment. Coffee can become an example for diversification and relief of post-war rural poverty.
- There is significant potential to increase coffee sector value in Angola through selective investment in farmer training, farm rejuvenation and use of inputs. Productivity can be doubled. The increased value largely flows into rural economy.
- Coffee alone will not provide sufficient income for a full farmer household, but diversification is possible and will also address income volatility.
- Total programme investment amounts to an estimated 48 million USD over 10 years that would generate a return across the sector of >170 million USD at current prices.



## Sources

Global Coffee Platform, Olam, CFC, CABI, INCA, Café Africa, Nestle

## Data

Instituto Nacional do Café de Angola (INCA), US Department of Agriculture, Food and Agriculture Organisation, International Coffee Organisation, CFC, 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.