



AFRICAN COFFEE SECTOR INVESTMENT OPPORTUNITIES

Summary of sector reviews of Angola, Burundi, Cameroon, Côte d'Ivoire,
Ethiopia, Kenya, Rwanda, Tanzania and Uganda

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.



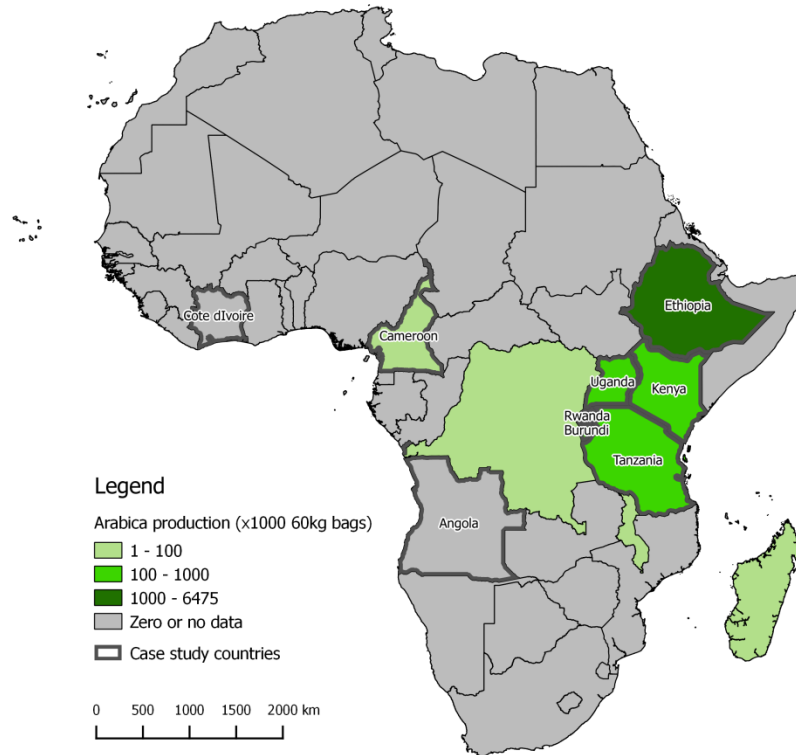
INVESTMENT OPPORTUNITIES ANALYSIS

- We describe the required investment (cost), expected returns (revenue) and the expected impact on coffee volumes and livelihoods.
- Investments are analysed on a sector level: total increased revenue in relation to total investment.
- Investments and returns do not always accrue 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).
- 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).
- Investments and conditions are to be negotiated with national public private platforms. Such negotiations should take into account e.g. international competitiveness, governance, transparency and accountability assurance.

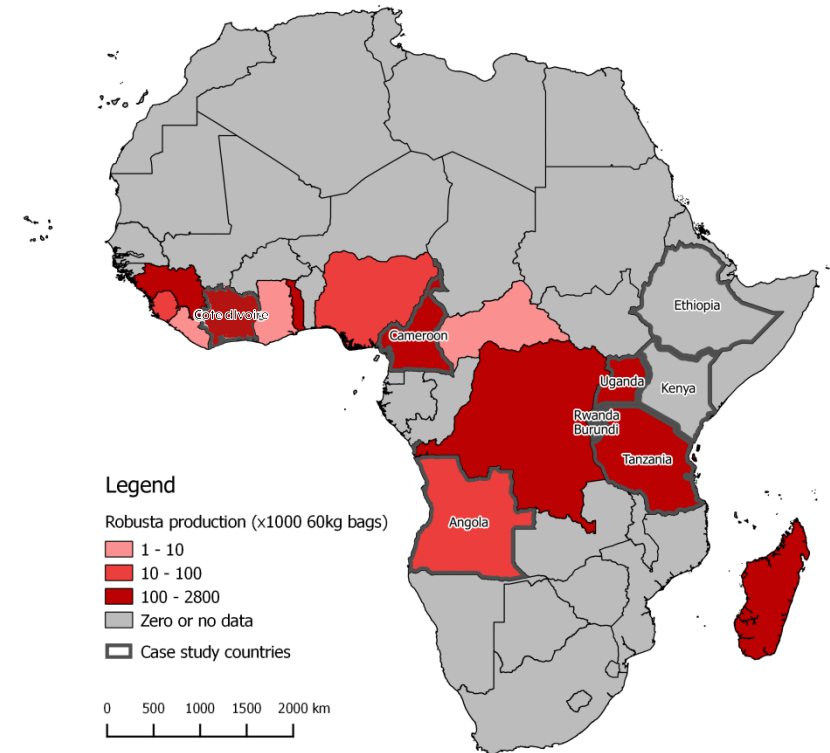
6 INVESTMENT REVIEWS IN EAST AFRICA, 2 IN WEST AND 1 IN CENTRAL AFRICA



Arabica production and countries covered by review



Robusta production and countries covered by review

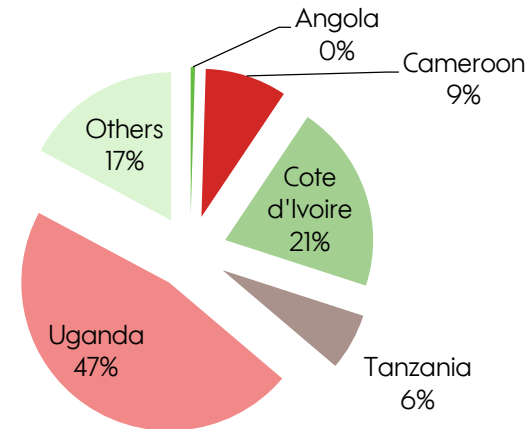


Source: Author's graphs using USDA PSD data

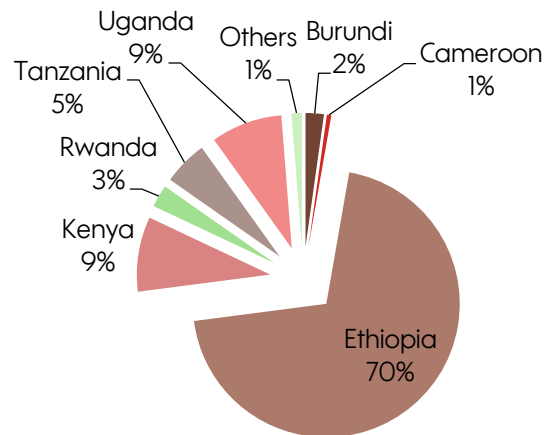
FOCUS ON 9 ORIGINS GIVES A REPRESENTATIVE CONTINENTAL VIEW



Share of African robusta supply



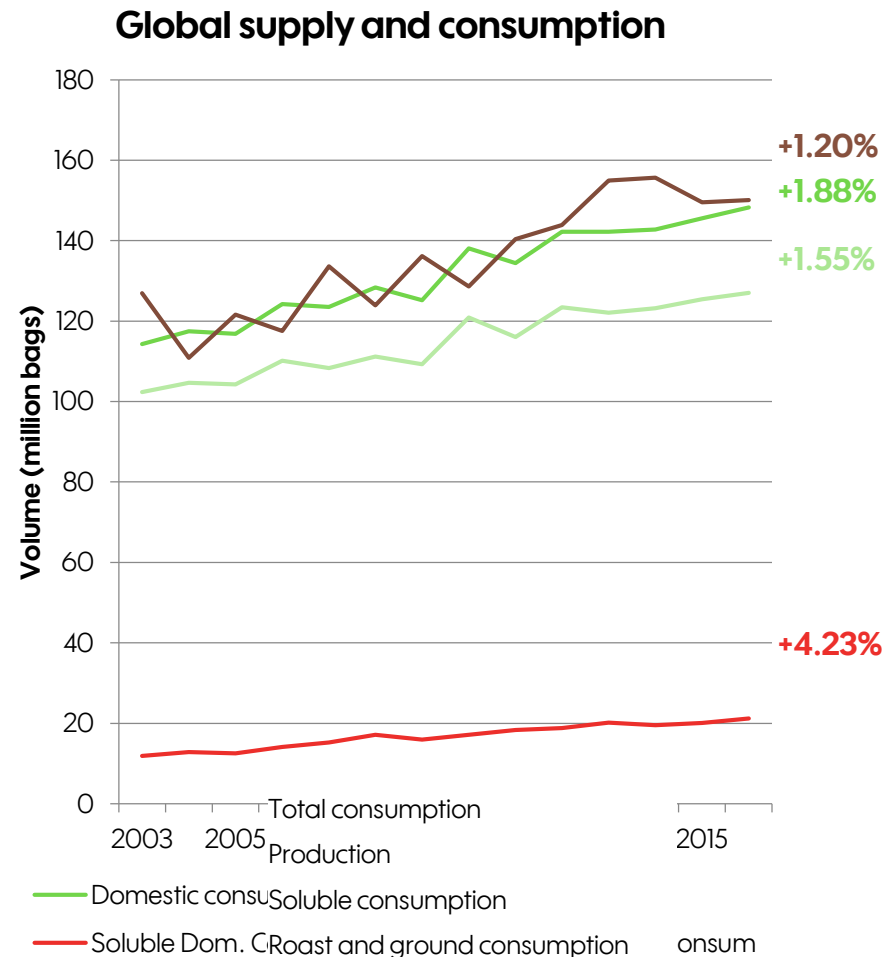
Share of African arabica supply



- Collectively, the countries covered by the 9 investment reviews cover 83% of African robusta supply and 99% of the arabica supply.
- In origins where arabica is dominant, the investment opportunities are modelled for arabica only.
- In origins where robusta is dominant, the investment opportunities are modelled for robusta only.
- Only in Tanzania, both arabica and robusta investment opportunities have been reviewed.

Source: Author's graphs using USDA PSD data

SOLUBLE COFFEE AND SHIFTING BLEND COMPOSITION PUSH UP ROBUSTA DEMAND



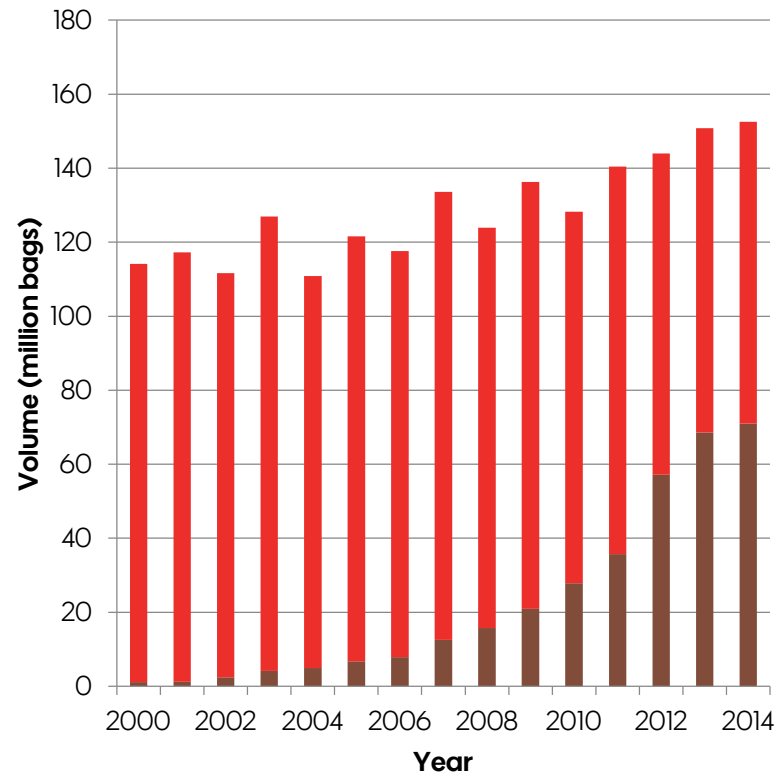
- The mean annual growth rate of soluble consumption was 4.23% over the past 14 years, while roast and ground consumption grew by 1.55% on average.
- Roasters have switched increasingly to robusta in roast and ground blends and soluble production relies predominantly on robusta.
- Consequently robusta demand shows stronger growth than arabica.

Source: Author's graph using USDA PSD data

AFRICA LAGGING IN SHARE OF CERTIFIED* SUSTAINABLE SUPPLY



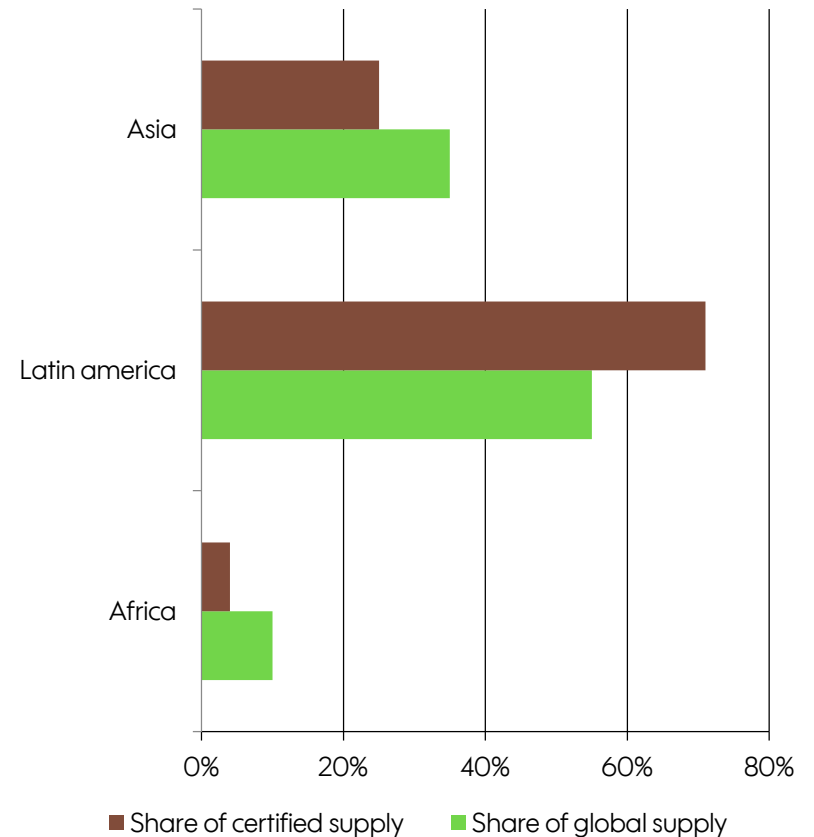
Global supply conventional and certified coffee



■ Volume certified* ■ Volume conventional

* Includes verified supply
** Not accounting for multiple certified supply

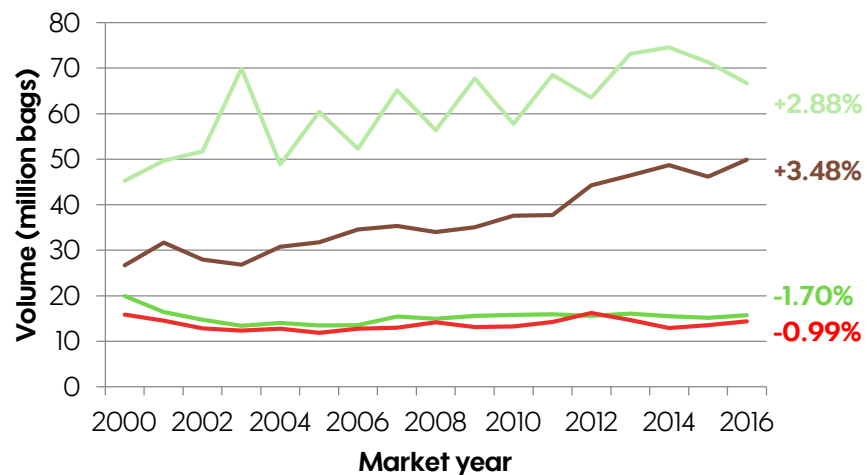
Share of total supply and certified supply



Sources: USDA, CTA, AL and VC analysis

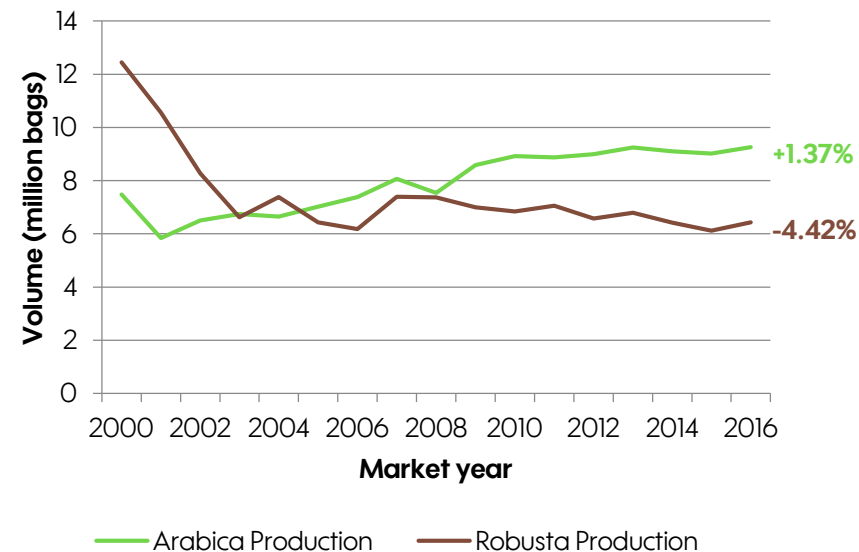
AFRICA'S TOTAL VOLUME HAVE DECLINED SINCE 2000, BUT ITS ARABICA SAW STEADY GROWTH

Global supply by continent



— Africa — Asia — Central America — South America

African supply by type

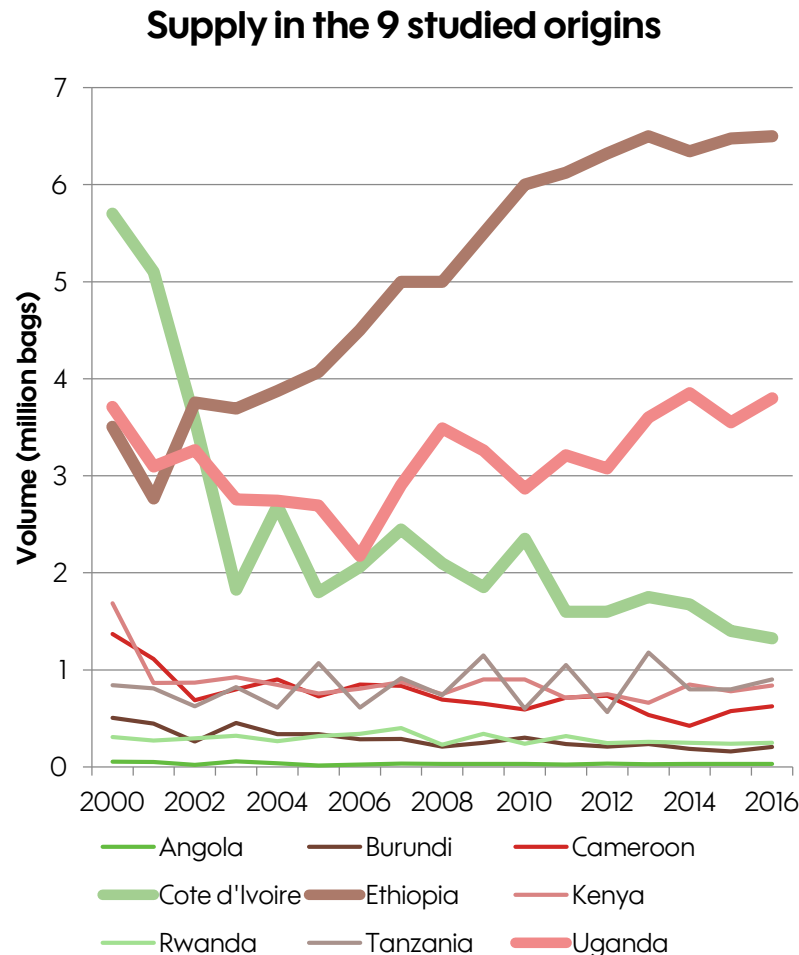


— Arabica Production — Robusta Production

- Supply from Central America and Africa has been declining while South America and Asia saw strong growth.
- While robusta demand is growing stronger globally, in Africa it is arabica supply that is growing.

Source: Author's graphs using USDA PSD data

THE DRASTIC DECLINE OF SUPPLY IN COTE D'IVOIRE IS OFF-SET BY GROWTH IN ETHIOPIA AND UGANDA



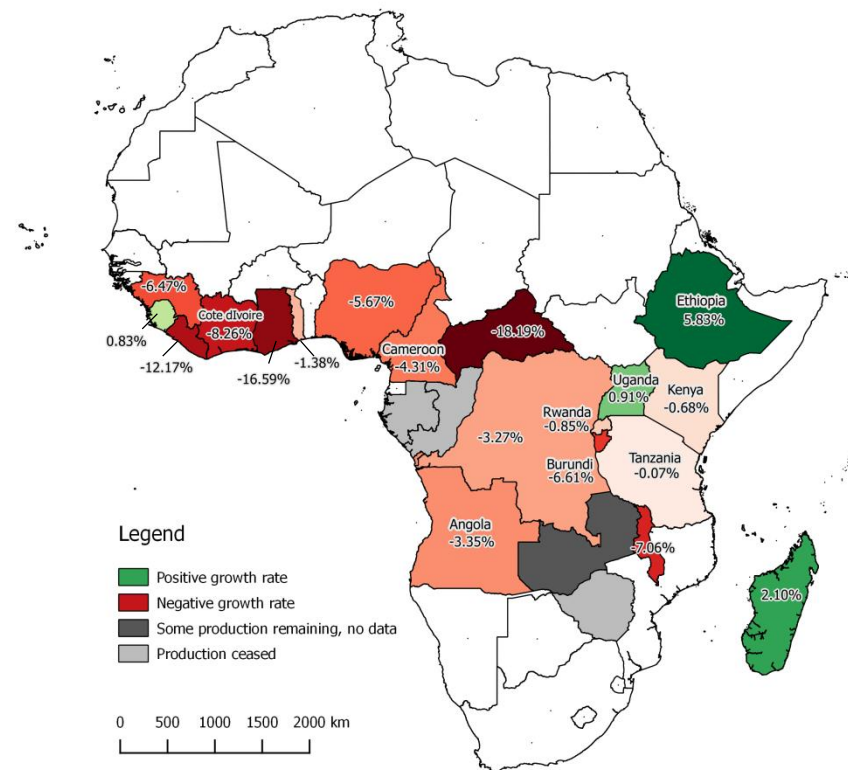
- African origins that saw supply decline lost 7.77 million bags of supply since 2000. Origins that were growing over the same period added 3.45 million bags.
- This results in a net loss of 4.32 million bags.
- Cote d'Ivoire alone lost 4.38 million bags since 2000, explaining 70% of Africa's net supply volume reduction.
- Ethiopia is responsible for 90% of the growth in African arabica supply with Uganda taking up most of the remainder.
- Tanzania is recovering and appears to be gaining ground again.

Source: Author's graphs using USDA PSD data

GROWTH RATES POSITIVE IN UGANDA, ETHIOPIA, MADAGASCAR AND SIERRA LEONE



Average growth rates of coffee supply 2000 to 2015 by country



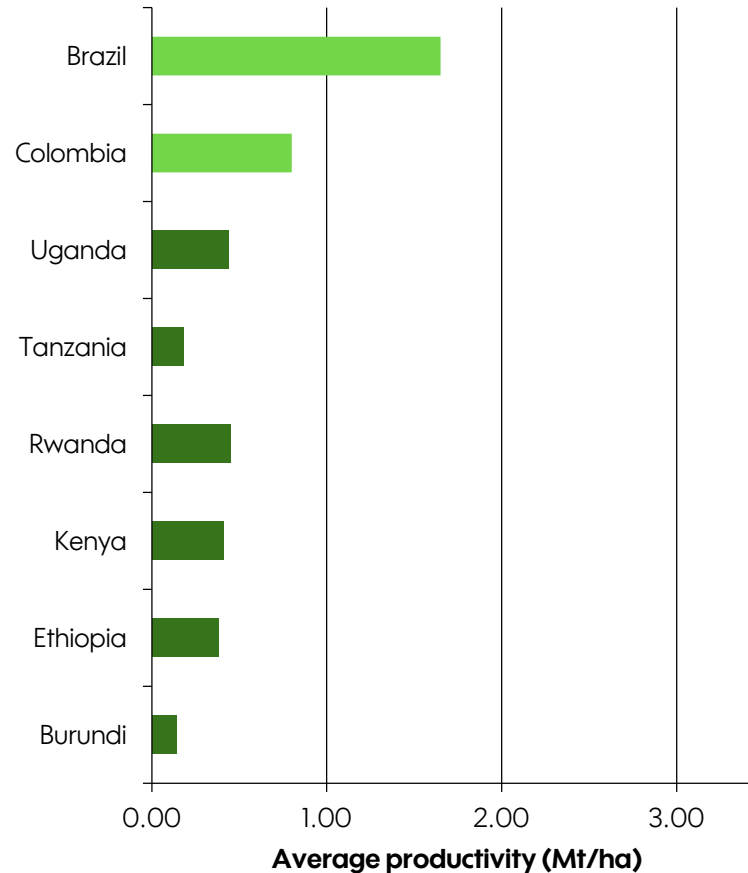
- Production of coffee in Zimbabwe, Congo (Brazzaville), Gabon and the Central African Republic has either ceased or volumes are too small to be commercially attractive.
- In Zambia some production is remaining, but no data could be retrieved.
- From 2000 to 2015 growth was observed in Ethiopia, Uganda, Madagascar and Sierra Leone.
- In Kenya, Tanzania and Rwanda growth of supply over the past 5 years is positive.

Source: Author's graphs using USDA PSD data

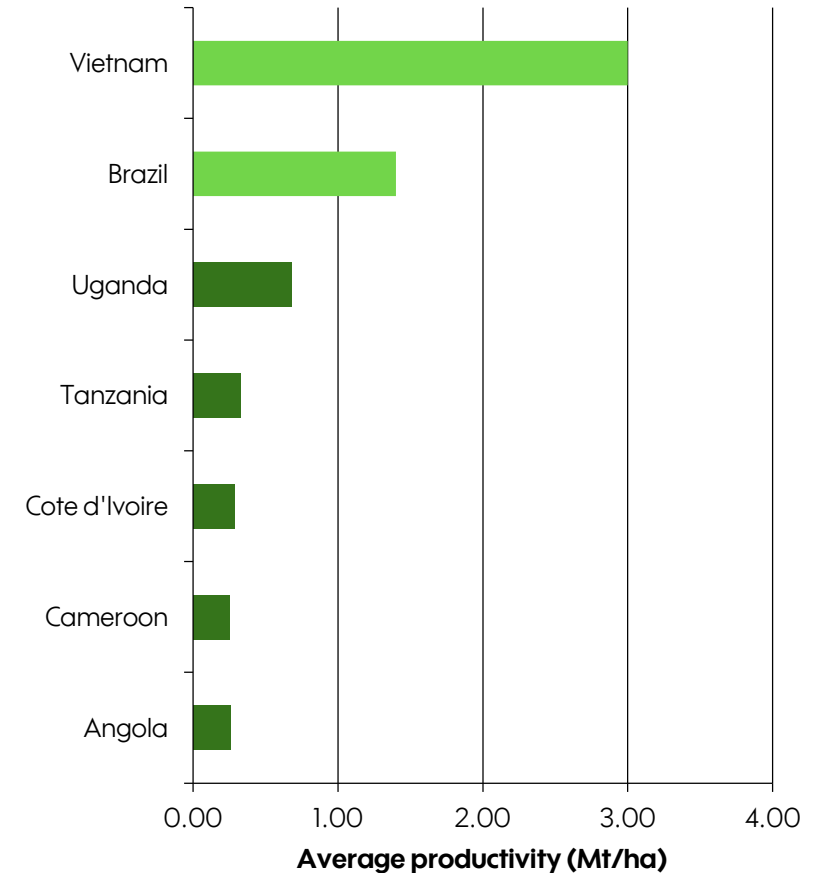
AFRICA'S PRODUCTIVITY GAP WITH GLOBAL MARKET LEADERS IS SIGNIFICANT



Arabica productivity (Mt/ha)



Robusta productivity (Mt/ha)

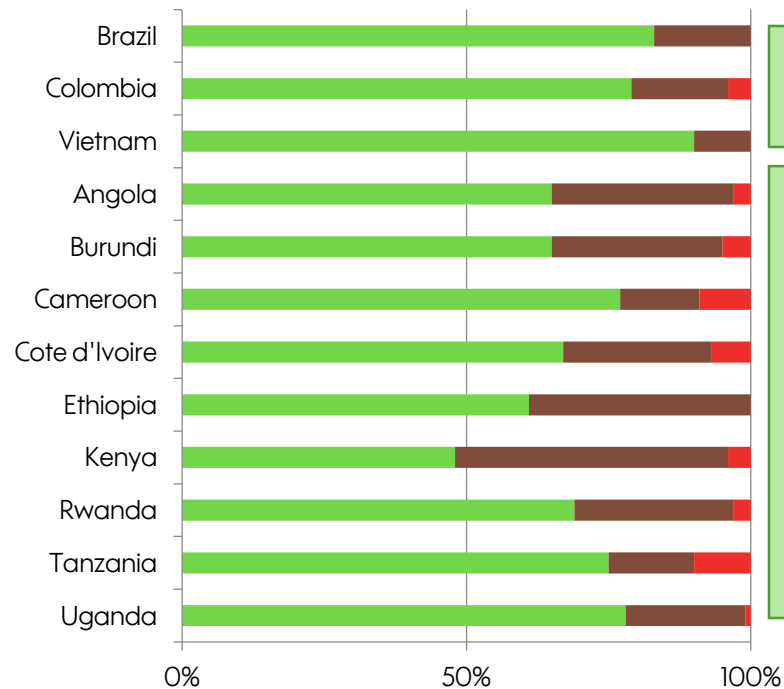


Source: Author's graphs using USDA PSD and FAO data

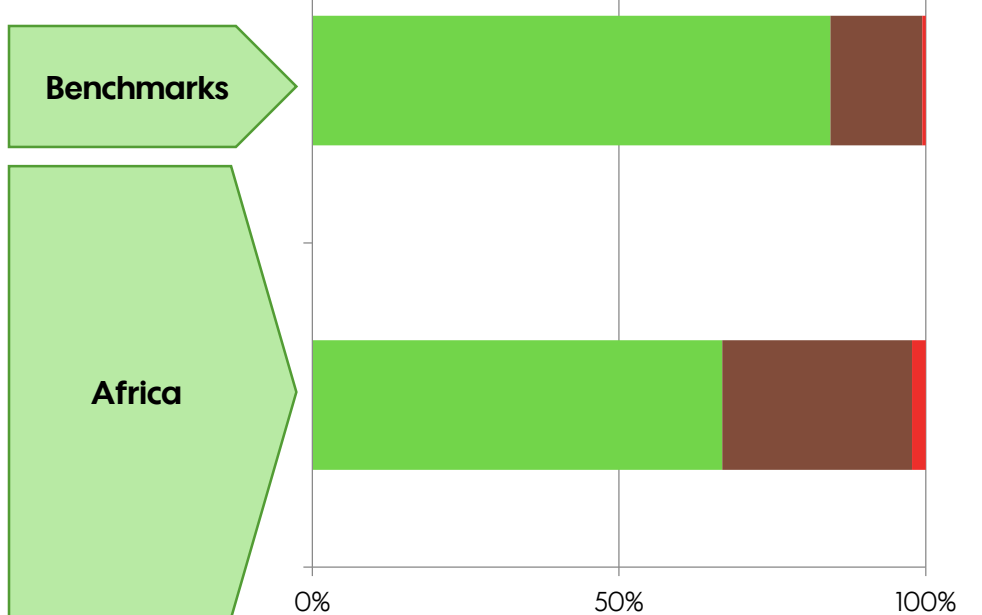
EXPORT TAXATION* IN AFRICA IS HIGHER AND SUPPLY CHAIN EFFICIENCY LOWER



Coffee value distribution (% of FOB or FOT price)



Weighted average coffee value distribution (% of FOB or FOT price)



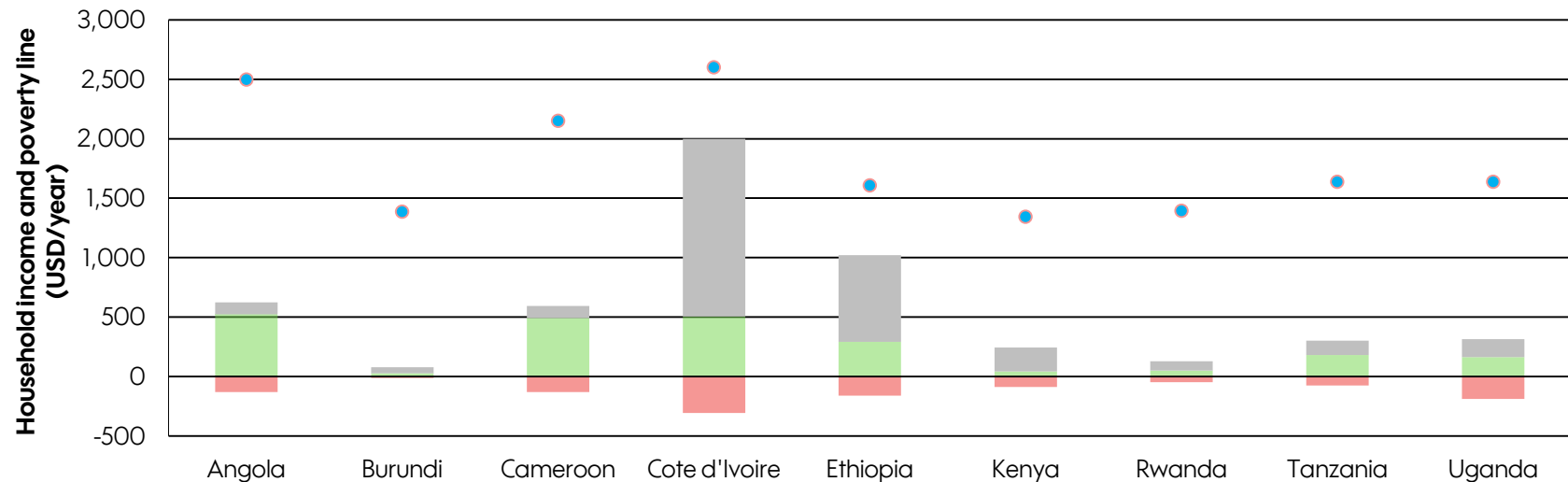
■ Farm gate price
 ■ Supply chain costs
 ■ Export tax
 ■ Weighted farm gate
 ■ Weighted supply chain cost
 ■ Weighted tax

* Export tax includes all mandatory payments, cess, fund contributions, etc prior to export

HOUSEHOLD INCOME DRIVEN BY ACREAGE AND DIVERSIFICATION



Farming household income in relation to poverty line



Farm size (ha): 1.7 0.12 1.9 2.5 0.67 0.14 0.08 0.7 0.45

■ Cost of production - current ■ Coffee profit - current ■ Other agricultural income ● Poverty line (1.9USD/pp/day PPP adjusted)

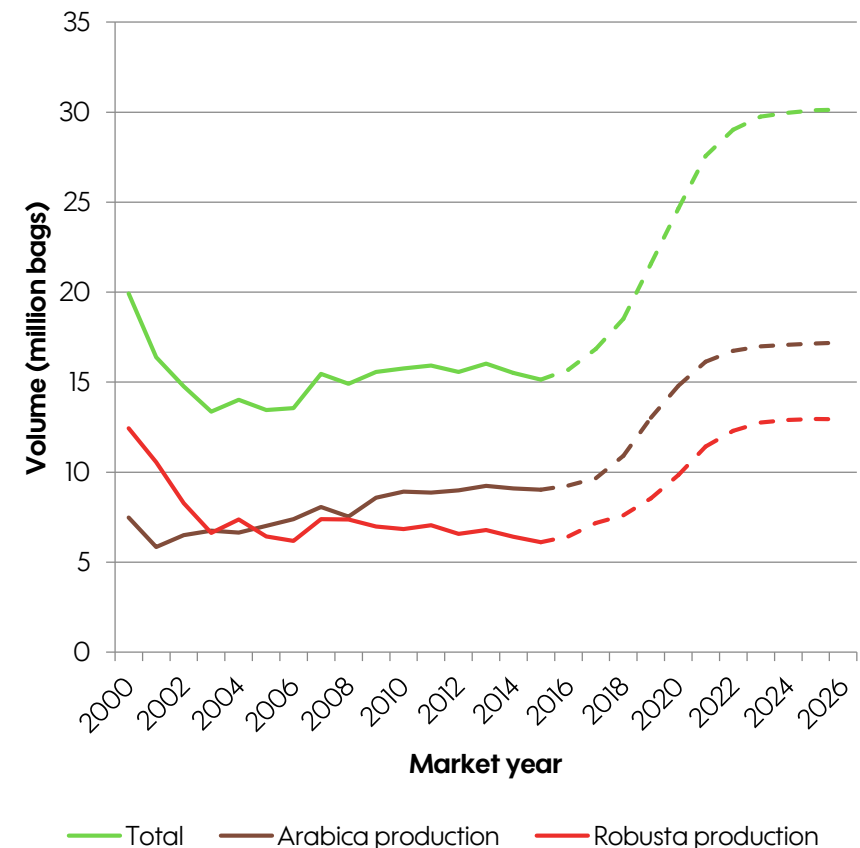
- Farming household income is currently below poverty line in all of the origins in scope. Note that this does not take value of home consumption into account.
- Efficient producers have low incomes because of low acreage.
- Other agricultural income, can make a difference. In some origins.

WITH THE RIGHT INVESTMENTS TOTAL SUPPLY COULD DOUBLE FROM CURRENT LEVELS



- Modelling a number of investment opportunities over a 10 year timeframe.
- A number of investments show a positive return in several origins: farmer training, rejuvenation/replanting, input supply, improvement of processing capacity, access to credit and farmer organisation building.
- Africa's supply could grow significantly through targeted investments in the 9 origins studied, reaching 30 million bags by 2026. This assumes steady historic growth rates in other African origins.
- This growth represents a 34% increase over Africa's highest production level of 22.5 million bags in 1973 and a doubling of the 2015 production.

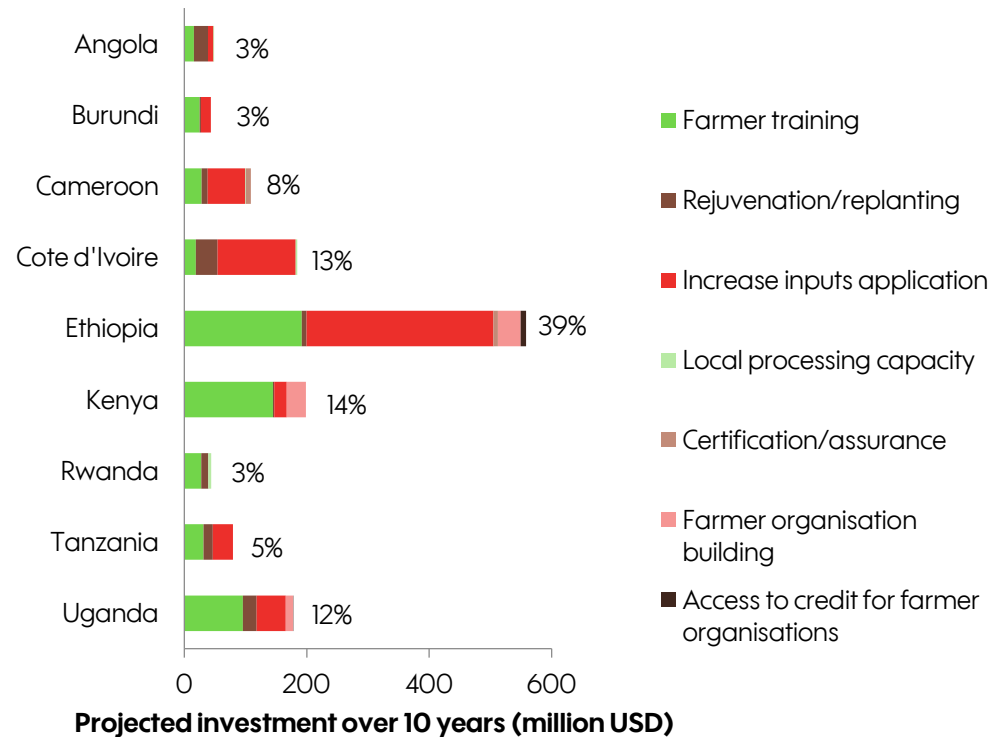
Africa supply trend and supply projection



TOTAL INVESTMENT AMOUNTS TO 1.4 BILLION USD OVER 10 YEARS AND 9 ORIGINS

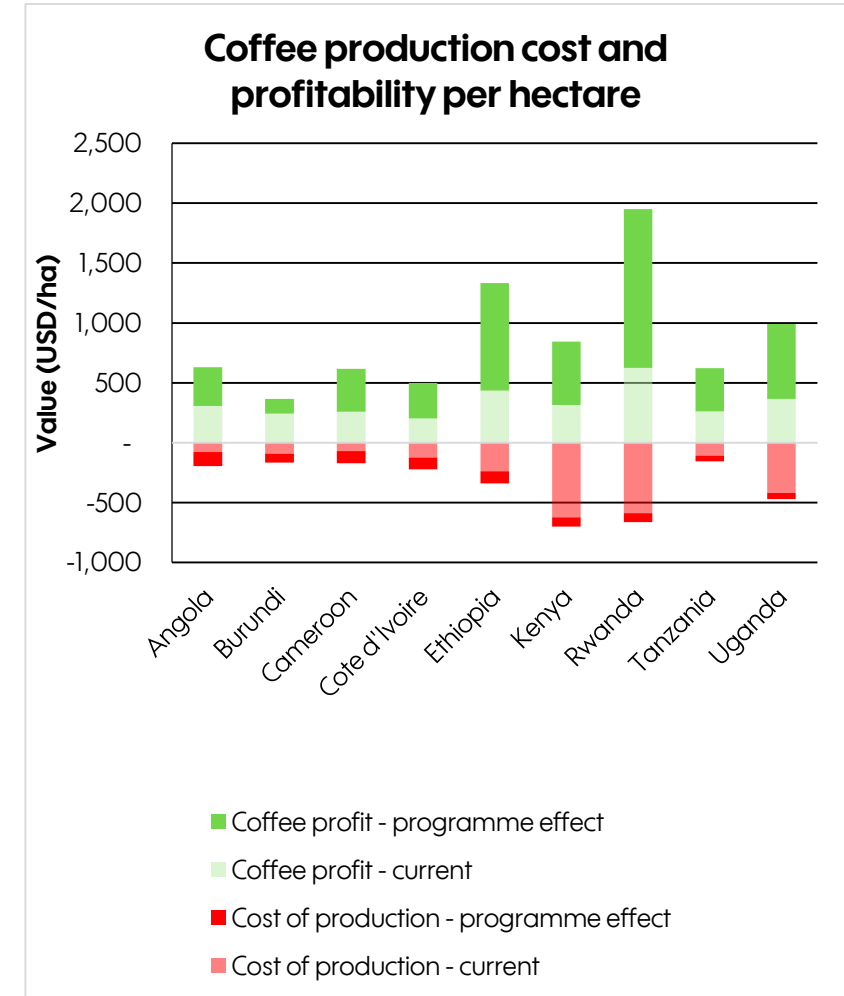
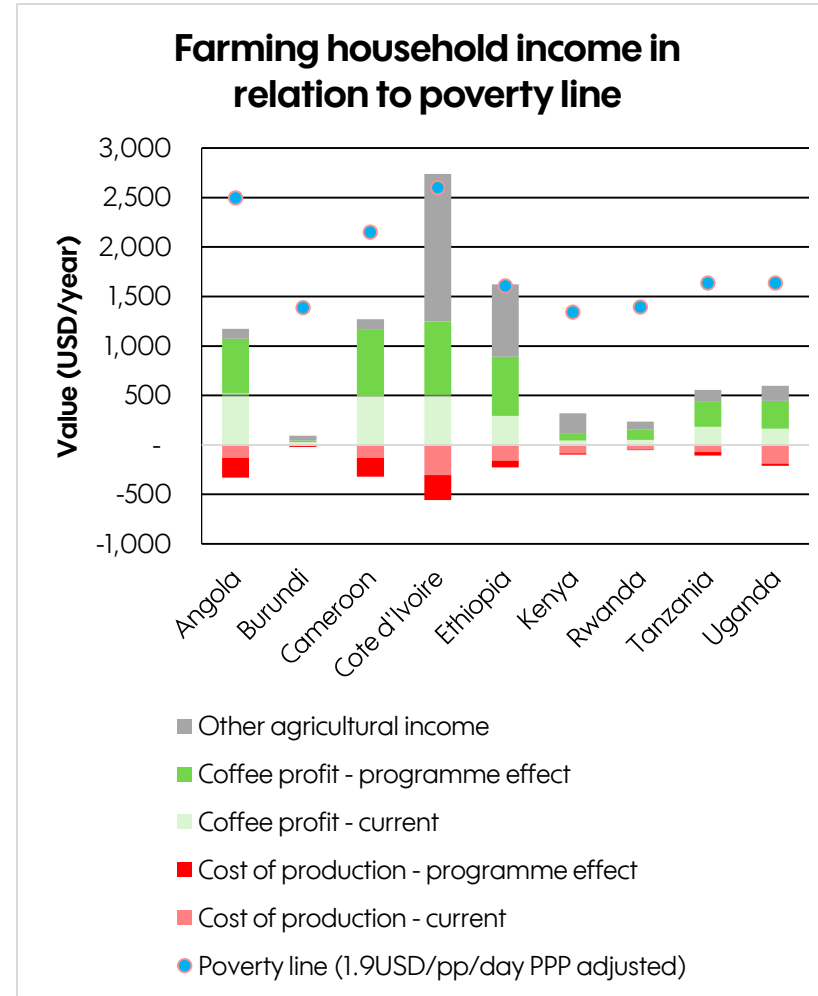


- Investment priorities based on stakeholder input, expert judgements. Cost-norms derived from past projects. The bulk of investment would go to Ethiopia, followed by Cote d'Ivoire, Kenya and Uganda.
- Farmer training and input supply credits take up 83% of investment.
- Under current assumptions the programme could reach 2.48 million farmers at a cost of 58.1 USD/farmer/year



- Rejuvenation features in every country, investments are relatively small with a significant return at sector level.
- Investment in certification shows a negative return on investment in all origins except Ethiopia.
- Investment in farmer organisations may be desirable for some from a social perspective, but tends not to be commercially viable. We include it for Kenya, Uganda and Ethiopia because much investment has already been done on this aspect, limiting total additional investment required.

INCOMES CAN INCREASE SIGNIFICANTLY AFTER INVESTMENT, BUT SMALL-SCALE FARMERS REMAIN POOR



OVER 10 YEARS RETURNS RANGE FROM 3.33 TO 15.75 USD PER 1 USD INVESTED AT SECTOR LEVEL



- All investments and returns are calculated over a 10-year timeframe.
- The return on investment calculations use the weighted average coffee price levels of the 2015 season. The total return is a function of additional turnover from volume and better quality.
- Countries with higher returns tend to be those that have had significant previous or on-going investment, which reduces start-up costs.
- Ethiopia's high return is driven by cheap rejuvenation using wild varieties and an existing subsidy programme for replanting.

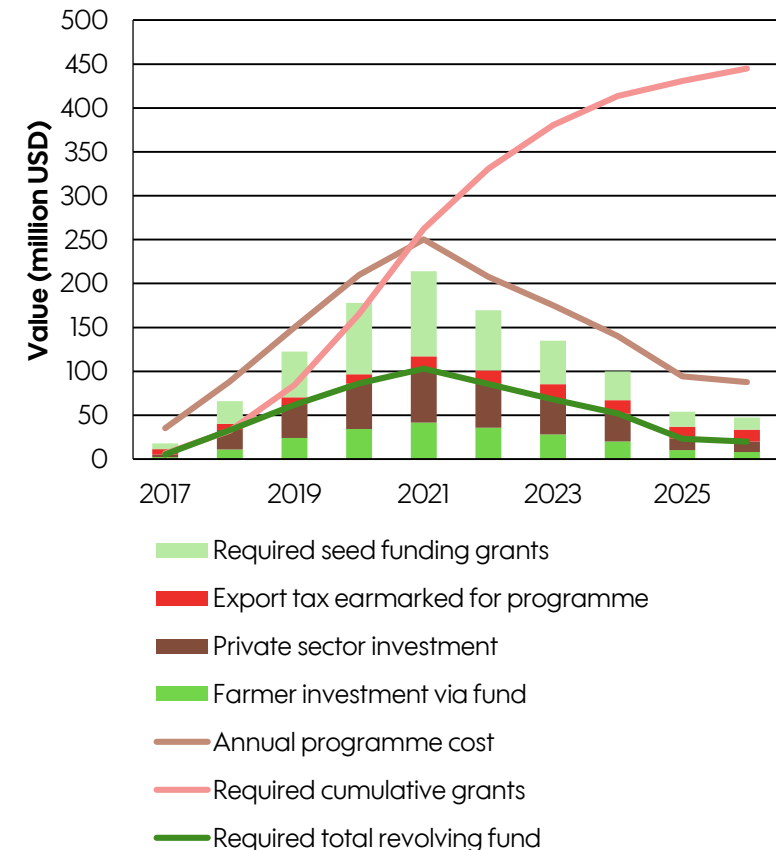
Country	Investment (MM USD)	Return (MM USD)	Return per USD invested
Angola	49	172	3.52
Burundi	43	144	3.33
Cameroon	109	527	4.85
Cote d'Ivoire	184	1,003	5.60
Ethiopia	558	8,795	15.75
Kenya	198	1,072	5.40
Rwanda	44	344	7.87
Tanzania	79	813	10.24
Uganda	178	1,799	10.08
Total	1,442	14,669	-

MARKET, DEVELOPMENT BANK, GOVERNMENT AND DONOR INTEREST TO INVEST IS PRESENT



- Several of the origins studied already have large scale programmes in place. For example, a World Bank financed programme in Burundi (70 million USD), Tanzania Coffee Partnership with DEG, BMGF and private sector.
- The Sustainable Coffee Program invests 3.4 million in African origins over the next 5 years.
- We assume private sector willingness to invest, from roasters, exporters and farmers.
- Local governments collect around 60 million USD in tax per year from coffee exports, we assume part of this can be used to leverage investments.
- A revolving fund to help finance some of the commercially feasible investments in the form of short-term loans is under consideration by the African Development Bank.
- Grant funding from the donor community remains required.

Public and private programme contributions



WE EXPECT MUCH OF THE RETURNS TO FLOW INTO THE RURAL AREAS



- Current turnover of the 9 African coffee origins is around 2.11 billion USD of which on weighted average basis 67% accrues to farmers, 31% to the local supply chain and 2% to governments.
 - Relative turnover allocations across sectors would not change much as a result of the investments, but absolute sector turnover could reach 4.18 billion USD in steady state using 2015 coffee price levels.
 - On average, incomes from farmers have the potential to double as a result.
- A challenge that remains is that many coffee producing households would still remain under the poverty line of 1.9 USD/capita/day, even if we adjust this value for Purchasing Power Parity.
 - As the overall sector turnover grows, coffee taxation regimes could be harmonised to reduce smuggling between countries



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.