



Policy Prioritization through Value Chain Analysis: Deep Dive Analysis on the Coffee Value Chain in Kenya

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SUMMARY

The coffee industry in Kenya has been on a decline for the past two decades. However, there are opportunities for a turn round which hinge on increasing farm level productivity, enhancing good governance for smallholder cooperatives and addressing value chain inefficiencies through market-led interventions. Kenyan coffee attracts premium prices in the world market. However, production has declined to less than 40,000 tons as the premium price has not trickled down to smallholder producers who account for about 70% of total production. Also, Kenya lags neighbouring countries and key coffee producers in terms of productivity in the region. Smallholder producers were found to be inefficient recording about half the yield and more than double the cost compared to estate producers. Smallholders are overapplying some inputs such as fertilizers due to knowledge gaps. Coffee cooperatives run inefficient operations characterised by low volumes of cherry processed and high fixed costs. There is a lack of transparency in price discovery and transmission for smallholder producers. To turn round the industry, interventions such as enhancing extension services, financing research will enhance productivity and production. Interventions to reform governance of smallholder cooperatives will improve transparency and governance.

BACKGROUND

The PPVC is a market-led approach that aims to

- Assist governments with evidence-based analysis to adequately prioritise their policies and investments (e.g., Kenya's National Agricultural Investment Plan (NAIP) and Kenya Vision 2030's Big 4)
- Determine which policies and public investments are most (cost) effective at driving market-led inclusive agricultural transformation, and
- Involve public- and private sector stakeholders right from the start.

First, the current state or "as-is" baseline is established. This entails establishing the current state and historical trends of coffee supply and demand, identifying stakeholders throughout the value chain with linked market shares, operational costs, capacity and constraints and summarising challenges faced by the various value chain actors. Secondly, the value chain "ideal state" in which key bottlenecks and constraints are addressed using specific levers of change (e.g., value chain investments and policy levers) is defined. In order to reach the ideal state, a combination of investments and policies are formulated at specific nodes of the value chain aimed at unlocking more value out of the market system. Furthermore, these changes are translated to gross margin changes at the various nodes of the value chain. The impact of interventions on the coffee sector is modelled over a medium-term horizon (10 years, using the BFAP's partial equilibrium model) and the resulting impact on agri-food system GDP, poverty reduction and off-farm agri-food system jobs is modelled (RIAPA – CGE modelling).

The coffee industry has been one of the key pillars of Kenya's economic development for decades, contributing an annual average of US\$230 million in foreign exchange earnings as Kenya's fourth most important export, after horticulture, tourism and tea. Its key role is recognised in the government's efforts to fight poverty and is central to the agricultural sector's contribution towards the realisation of Kenya's Vision 2030, which is the country's economic blueprint, the Agriculture Sector Transformation and Growth Strategy (ASTGS), and in the Big 4 Government Agenda . (ICO, 2019)

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Data and Methods

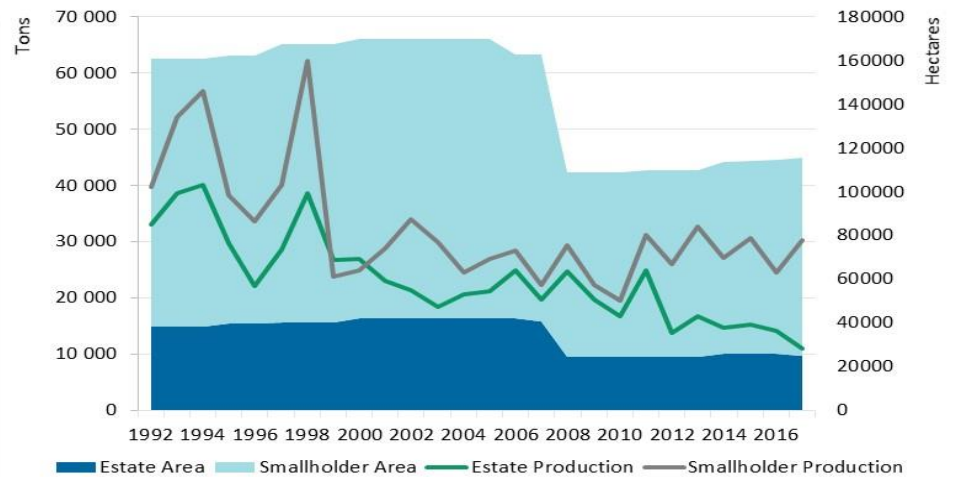
Coffee used to be the primary livelihood source for the majority of Kenya's small-scale producers. However, following the collapse of the International Coffee Agreement in 1989, production of coffee went into a steady decline (production area) and coupled with other key challenges such as delayed coffee payments, mismanagement and inefficiencies in cooperative societies, and high cost of production the sector has declined to 40 000 tonnes in 2019 from 130 000 tonnes in 1988. As a result, there has been a series of reforms aimed at reviving the coffee sub-sector

The most recent of which are formulated in the Coffee Bill of 23rd October 2020 and is currently being considered by government for legislation. Some of the aspects of this bill are summarised below:

- The coffee factories are to be transformed to autonomous entities (instead of falling under / belonging to a cooperative).
- Coffee factories are to appoint millers themselves (previously decided by the cooperative).
- A revision of the Nairobi Coffee Exchange operations to a commodity-based system.
- Millers and factories are to be prohibited from lending to farmers. Farmers are to borrow from the Cherry Advance Fund.
- Additional levies on the sale of coffee are to be introduced (nowhere does the bill state which existing levies are to be replaced, stakeholders will continue to pay other licences as required):
 - 2% ad valorem levy for the Coffee Research Institute.
 - 4% import duty on imported coffee to the Coffee Board of Kenya
 - 2% auction levy (paid by buyers) - 1% to Coffee Board of Kenya and 1% to County Governments.

Results

The bill introduces various forms of additional government controls on the coffee value chain, the transformational effect of which can be speculated and debated – research and evidence shows that markets need to be well regulated



whilst encouraging fair competition rather than control practices. While a number of the bill introduced changes might take time to implement, the additional levies are straight forward to implement and this analysis considered this change as part of the near-future reality. While the Coffee Research Institute and Coffee Board of Kenya are not directly involved in handling coffee volumes, the auction is a significant stakeholder in the coffee value chain from a market perspective. Therefore, the 2% additional auction levy is introduced to the current state of the coffee value chain as the first “intervention” and part of the near-future state; before the PPVC market-led intervention recommendations are systematically introduced and the impacted modelled.

Additional levies essentially impose additional taxes on a declining industry, rendering the value realised at farm-level lower and resulting in a worse-off position. However, if these funds can be put to use to support farm-level productivity and address downstream inefficiencies, significant additional value can be unlocked, particularly at farm-level, supporting the overall sustainability and profitability of the coffee value chain.

From the deep-dive analysis of the current state of the coffee value chain, it was found that the majority of smallholder farmers incur significantly higher input costs per kg of coffee produced than the estate farmers. This includes inflated fertiliser and manure applications and costs as well as higher

labour costs. Smallholders were found to produce coffee at lower yields and higher cost than commercial or estate producers. Negative average gross margins for smallholder coffee production were observed, explaining why smallholders are exiting coffee and looking to other perineal crops for income. In order to curb the decline in the coffee area (stop smallholders from exiting coffee farming) significant reforms supporting farm-level productivity are needed.

1. **Optimised inputs (Costs & Application):** excessive manure and fertiliser application to be reduced which in addition to reducing direct cost of inputs could lead to reduced vegetative growth and therefore also reduce disease management, weeding and labour costs. This has a direct implication on the current fertiliser subsidy program for coffee farmers. The government could consider restructuring the subsidy program to focus on an extension module to ensure that farmer optimally use fertiliser as well as the fair and affordable cost of fertiliser.
2. **Improved agricultural practices and yields:** re-establishing improved management practices (through improved extension services) to introducing the suitable activity at the right time. Access to new cultivars can also facilitate higher yields in the longer term. The levies to the CRI and county governments can be used to develop an extension outreach program for coffee farmers to equip smallholder farmers with the right knowledge and skills to produce and manage coffee

Another key take-home message from the deep dive analysis speaks to inefficiencies in the downstream coffee value chain (especially at the traditional cooperative level). Kenyan coffee receives a premium in the international market. However, this higher value is not realised at the farm-level (particularly for smallholders). Coffee producers own their coffee until it is sold at auction, which when not managed optimally leads to significant payment delays and high interests payments on production loans. Other inefficiencies found at the cooperative level include:

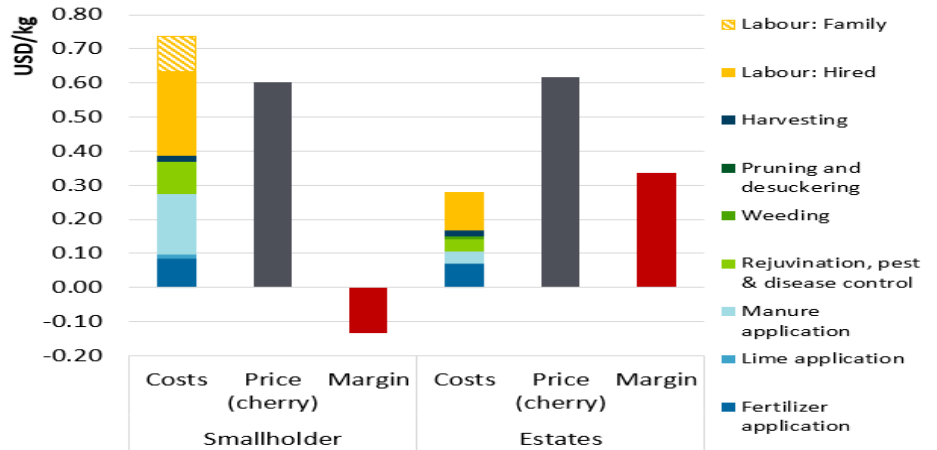
- 1. High operating cost:** declining coffee volumes lead to sub-optimal capacity utilisation and, therefore, higher per-unit cost. Old, poorly maintained machinery is operated, resulting in low-quality parchment.
- 2. Governance related inefficiencies:** cooperative societies are offering high-interest loans, high processing losses and some evidence of embezzlement/corruption was found.
- 3. Input supply systems:** cooperative societies procure inputs in bulk, which enables cooperatives to offer inputs at lower than market prices. However, the bulk purchase of inputs is mainly on loan, and the resulting interest is often charged to all members instead of those accessing inputs through the cooperative.

The third market-led intervention speaks to improving the value chain efficiencies by supporting competitive market dynamics with increased capacity utilisation and cost efficiencies as well as increased market opportunities.

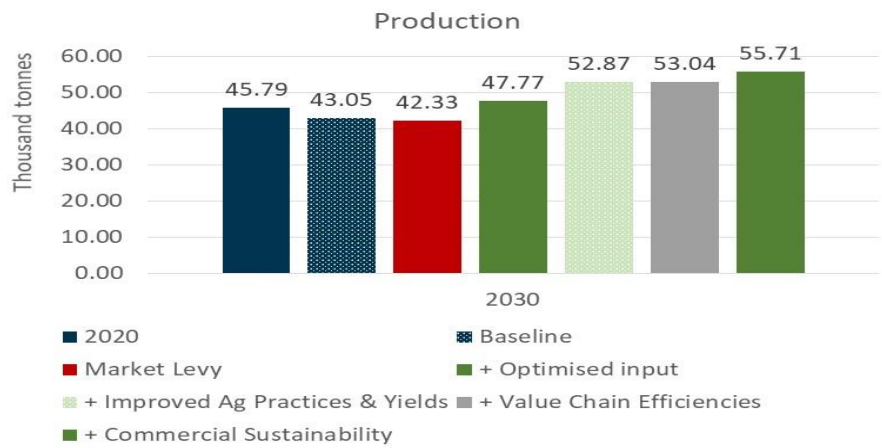
The deep dive analysis shows that introducing reforms that do not support increased productivity at farm level will not bring about transformational growth within the industry. Medium to long term productivity reforms take time and require funding – therefore if funds from additional market levies are successfully channelled to support farm-level productivity and address downstream inefficiencies, significant additional value can be unlocked, particularly at farm-level, supporting the overall sustainability and profitability of the coffee value chain.

Applying these interventions to the coffee value chain leads to a combination of input cost savings, producer price increases, and overall increased competitiveness in coffee

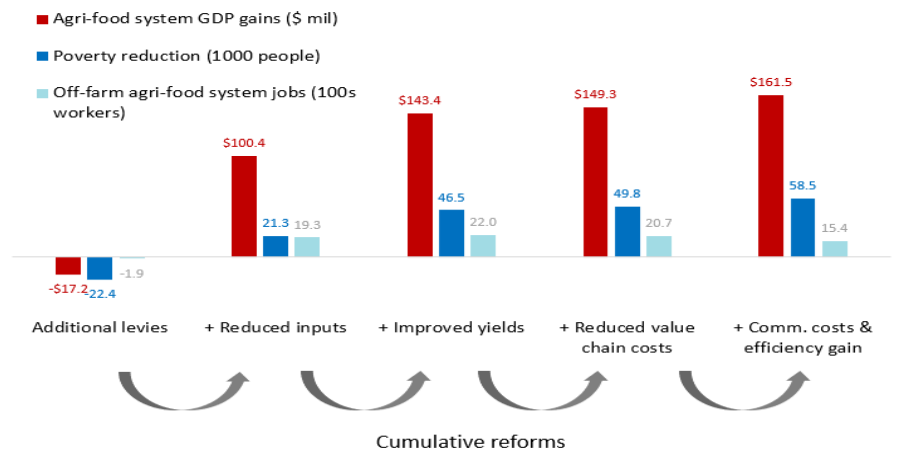
High Input Cost & Low Yields Driving Negative Margins For Small Holders



Furthermore, the impact of the ideal-state coffee value chain on the economy at large is modelled and quantified in agri-food system GDP gains, poverty reduction and off-farm agri-food system jobs.



Annual increase in agri-food system GDP & reduction in number of poor people by 2030 under different reform packages



1. Optimised inputs (costs & application)	2. Improved Ag Practices & Yields	3. Value Chain Efficiencies	4. Towards Commercial Sustainability
Balanced input application, transparent and fair cost of inputs, access to affordable finance.	Improved management practices, access to new cultivars	Competitive market dynamic with increased capacity utilisation and quality processing. Increased market opportunity	Interventions 1 – 3 are seen to yield incremental improvements over time. Continuously achieving incremental improvements over time, will reduce the gap between smallholder and estate coffee profitability.

ACKNOWLEDGMENT

Tegemeo Institute acknowledges support for this study received from project partners, the Bureau for Food and Agricultural Policy (BFAP), International Food Policy Research Institute (IFPRI), the Government of Kenya through the Ministry of Agriculture, Livestock, Fisheries and Cooperatives, and the Alliance for Green Revolution in Africa (AGRA). The Bill and Melinda Gates Foundation (BMGF) is also acknowledged for the grant provided to undertake this study.



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