AGRICULTURAL MANAGEMENT,
MARKETING AND FINANCE
WORKING DOCUMENT

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# The African export industry: What happened and how can it be revived?

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# Preface

The African export industry has undergone a cycle of rapid growth and decline in the years following national independence and the structural adjustment programmes. Certain sectors are faring better than others, while many are fighting a losing battle to remain competitive. This study will seek to identify those factors that influenced select industries, Coffee in Kenya, Oil Palm in Nigeria and Cocoa in Cameroon, paying particular attention to the elements of management and industry structure that contributed to the demise of these important export commodities. Africa's policy process cannot be generalized, since there are as many similarities as there are differences in individual country experiences. Moreover, there is a broad set of factors that have shaped policy implementation, but the extent of each differs from country to country. Each case study will therefore seek to capture specific domestic elements drawing upon the vast literature available and primary research with local actors.

Following a preliminary literature review of the Kenyan coffee industry, a series of questions and hypotheses explaining the decline in production and quality were drafted. Subsequently, meetings were scheduled with various actors in the Kenyan coffee chain (with the help of FAO Kenya). As such, meetings were held at the Ministry of Agriculture (MOA), the Coffee Board of Kenya (CBK), the Coffee Research Foundation (CRF), the Kenya Coffee Traders' Association (KCTA), the Coffee Research Network (CORNET), the East African Fine Coffees Association (EAFCA), the Kenya Planters' Cooperative Union (KPCU) and with various small and medium scale producers and relative associations.

This case study takes a close look at the internal causes of the decline in both quality and production of Kenyan Arabica coffee. It additionally provides recommendations for actions to be taken to help stimulate the industry.

This working document is aimed at those working at ministries of agriculture and extension services, Non-Governmental Organizations (NGOs) and related projects concerned with agricultural development.

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# Acronyms

| | |
|---|---|
| AO | Apex Organization |
| CA | Coffee Act |
| CBD | Coffee Berry Disease |
| CBK | Coffee Board of Kenya |
| CDF | Coffee Development Fund |
| CLR | Coffee Leaf Rust |
| CO | Coffee Officer |
| CORNET | Coffee Research Network |
| CRF | Coffee Research Foundation |
| COTEPA | Coffee and Tea Parliamentary Group |
| DAO | District Agriculture Officer |
| EAFCA | East African Fine Coffees Association |
| FAO | Food and Agriculture Organization of the United Nations |
| FDI | Foreign Direct Investment |
| FOB | Free On Board |
| FX | Foreign Exchange |
| GDP | Gross Domestic Product |
| GOK | Government Of Kenya |
| HA | Hectare |
| HYV | High Yielding Variety |
| ICA | International Coffee Agreement |
| ICO | International Coffee Organization |
| IMF | International Monetary Fund |
| KCTA | Kenya Coffee Traders' Association |
| KCA | Kenya Coffee Auctions |
| KPCU | Kenya Planters' Cooperative Union |
| KES | Kenya Shillings |
| MFCS | Muramoki Farmers' Cooperative Society |
| MOA | Ministry of Agriculture |
| MOC | Ministry of Cooperatives |
| MT | Metric Tonne |
| NCE | Nairobi Coffee Exchange |
| QC | Quality Control |
| RFCS | Rianjagi Farmers' Cooperative Society |
| SACCO | Savings and Credit Cooperative Society |
| TCGA | Thiriku Coffee Growers' Association |
| WB | World Bank |

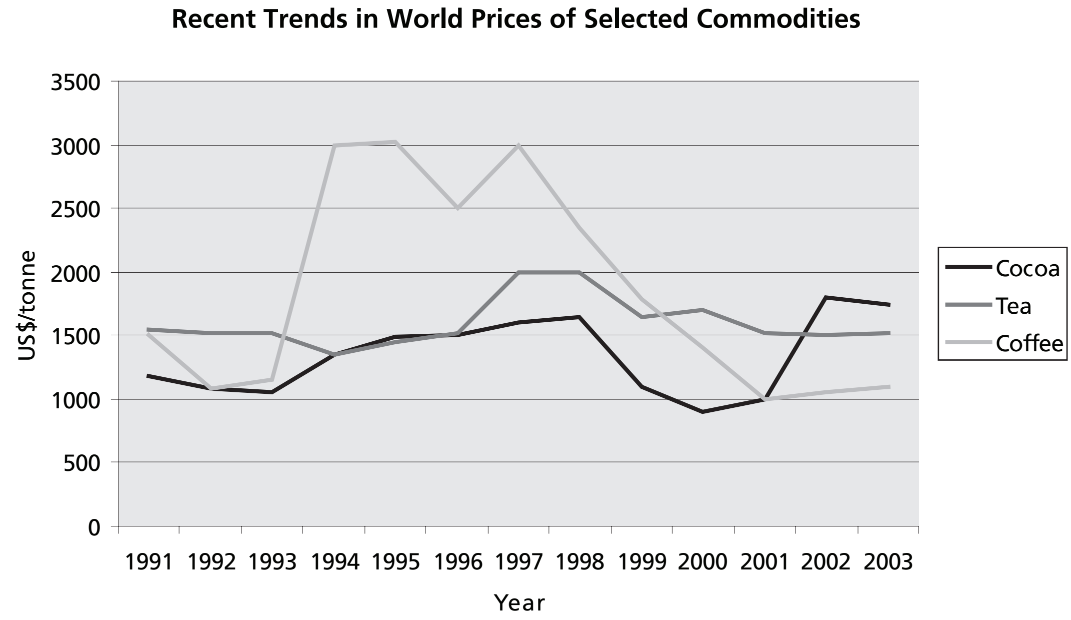
# Summary

The Kenyan highlands provide one of the most successful agricultural production regions in Africa. In fact, 75 percent of the 11.85 million people comprising the labour force are employed in agriculture, commanding a per capita Gross Domestic Product (GDP) of $1 200 in 2005, although 50 percent of the population lives below the poverty line (CIA, 2006).

Coffee used to be the main livelihood source for the majority of Kenya's small-scale producers. Their premium quality Arabica coffee commanded a high price on the world market and ensured that producer families could take care of their daily subsistence needs, as well as paying for their children's education.

Between 1997 and 2001, world coffee prices declined by about 70 percent, falling below the cost of production in a number of developing countries. This five year low has improved in the past few years, but only as a result of the reduction in supply by Latin American producers. Accordingly, countries that depend on coffee for more than 20 percent of their export earnings have increased the volume of coffee they trade by 26 percent, however, their income from coffee exports has fallen by almost a third (FAO, 2004). The trends in world prices are depicted in the figure below.

**Figure 1. Recent trends in world prices of selected commodities**




Source: FAO, 2004

Kenyan smallholders absorbed the full shock of the plummeting world prices. With the advent of the World Bank (WB) and International Monetary Fund (IMF) imposed structural adjustment lending programmes (part of the liberalization effort seeking to encourage export-led growth), and with the subsequent government pullout from providing key support services, producer incomes all but vanished. Consequently, their dependence on this primary commodity left them in a most vulnerable state with little to fall back on, as was the case in many African nations (Oxfam, 2002). Despite the intended benefits of liberalization, the negative impact on poor producers has been considerable. In addition, while diversification is being encouraged, producer families are so financially unstable that they lack the savings required to sustain them to the harvest and sale of the new crops.

Kenyan producers have therefore been unable to continue producing high quality coffee, since factors such as low and slow payments hinder their cash flow. Some producers have to wait up to six months to receive revenues from the coffee they sold. This explains why the use of inputs has declined, since they are expensive and also because other pressing needs such as school fees and daily subsistence become priorities.

Government funding for rural finance, research and extension and information dissemination have also declined considerably. For instance, the Coffee Research Foundation's (CRF) budget has declined by about 55 percent, while the number of staff has dropped by almost 70 percent. The Foundation played a critical role in the provision of many of these services to producers, as well as in the dissemination of improved seedlings and technologies; however the financial constraint severely limits its outreach. The Coffee Board of Kenya (CBK) has experienced a similar demise. As the industry regulator, the shrinking budget has made regulating the industry and enforcing quality standards extremely difficult. As such, the role of the CBK has been diminished.

The future of the Kenyan coffee industry hinges on how well these issues are addressed. By building the capacity of smallholders through adequate access to information, extension services, rural finance, improved seedlings and new technologies and by improving rural infrastructure, the industry can regain robustness and regain high commercial viability of Kenya's premium quality Arabica coffee.

# I. Introduction

The Kenyan coffee sector used to be a public holding. Through the CBK, the Kenya Planters' Cooperative Union (KPCU) and the various other cooperative unions, the government maintained control over the sector and ensured that it operated efficiently and effectively. Under this structure, producers received three types of payments (advances, credit/vouchers, and cash) and were guaranteed timely payments according to a transparent schedule.

For many producers, coffee was their only livelihood source and they benefited from the high price it commanded in the market. Producers, particularly smallholders, adhered to a strict set of regulations (imposed and monitored by the government) for coffee growing and repeatedly produced premium quality coffee, thereby earning a unique reputation for Arabica coffee of Kenyan origin.

However, following liberalization, many of the producers found themselves abandoned in a system that they didn't understand. They didn't know how to operate independently of the government and their lack of knowledge rendered them vulnerable to exploitation by the various agents that entered the system. Many of the farmers subsequently uprooted their coffee trees, (80 percent of the land being devoted to coffee), to grow other crops. Some started intercropping other crops with coffee, which affected overall quality.

Although liberalizing the coffee sector is often blamed for the sector's demise, the issue is better stated as 'throwing out the baby with the bath water'. Liberalization, if carried out gradually, over a period of time and in strategic phases, would have achieved its intended purpose. However, once the government liberalized the sector, it effectively pulled out completely, without preparing the producers, training them on how to perform important functions and without building their management capacity. The concerned stakeholders failed to fully appreciate the effects such drastic liberalization measures would have, hence the unfortunate consequence. Had a robust structure been put in place, the sector could have continued to thrive.

## Characterization and background

### Overview of macroeconomic environment

In the early 1980s, a number of developing African nations were encouraged by the WB and the IMF to liberalize their economies as a means to stimulate export-led growth in those industries where they enjoyed a competitive advantage. Consequently, the various reforms implemented involved removing government support mechanisms in a number of industries, with the simultaneous opening up of their markets to the world. The unfortunate consequence was that many of these industries were unprepared to absorb the risks associated and with the lack of appropriate safety nets, the primarily smallholder-based agricultural industries began to crumble. Furthermore, a number of these countries were stuck selling raw materials that earn the least amount of revenue in the commodity value chains. Thus, while the major coffee brands (controlled by Kraft Foods, Nestlé, Procter & Gamble and Sara Lee) made profits of over US$1 billion in 2001, the small-scale coffee grower earned as little as US$ 0.06 per kilogram (Oxfam, 2002).

The WB's 1996 Staff Appraisal Report stated that Kenya's macroeconomic performance was poor between 1991 and 1993. In April 1992, the government partnered with the IMF on a programme of actions necessary to re-establish a sound macroeconomic framework, which included deficit reduction and liberalization of the foreign exchange (FX) regime. Until mid-1993, the implementation of the actions required was unsatisfactory. Although fiscal targets were met, monetary targets were exceeded and the liberalization of the FX regime proved to be unsustainable. Monetary policy was tightened and the economy began to stabilize. Inflation slowed, the nominal Treasury bill rate declined and the market-determined exchange rate appreciated, paving the way for the unification of the official and market rates.

In the late 1990s, Kenya maintained a relatively stable macroeconomic environment and the accompanying benefits began to filter through to agriculture. In addition, both domestic and international market demand remained buoyant for the main commodities produced domestically. From a sectoral perspective the government's agricultural strategy recognized that an appropriate policy environment which sends consistent and credible signals to the market had to be in place and as such, the government took steps to complete the policy agenda. The government's strategy also recognized that the institutional framework had to be readjusted and emphasized, and that the reform of public sector operations helped to release resources that could be used for higher priority tasks (World Bank, 1996).

In the coffee industry, macroeconomic reforms including the removal of restrictions on the exchange rate, FX retention and remittances and liberalizing interest rates, allowed exporters to keep most of their earnings in FX. Consequently, coffee farmers are also paid in FX, although the large majority that are paid in the local currency through their cooperative societies do not benefit directly from the liberalization of the FX markets. Farmers therefore continue to receive low payouts because of the high deductions made by the societies and owed to the ineffective and often corrupt management of both cooperative societies and coffee factories (Nyangito, 2001).

As was the case with most other commodities, coffee was traded in a managed market regulated by the International Coffee Agreement (ICA) until 1989. Then, producing and consuming nation governments pre-determined supply levels by setting export quotas for producing countries. This helped to keep coffee prices relatively high and stable, maintaining a range of $1.20 per pound to $1.40 per pound. In the event that prices rose above the ceiling, suppliers were permitted to exceed their fair share to meet the growing demand. However, disagreements between members eventually led to the breakdown of the ICA in 1989 (Oxfam, 2002).

When frosts lowered Brazilian output in 1994/5 and 1997, the rapid price increases triggered the production of coffee by other countries (particularly of the Robusta variety). Since there was nobody to regulate export quotas, the market was soon flooded with an oversupply of coffee.

In the world market, the price of coffee has fallen to a 30-year low, dropping by almost 50 percent. Thus, smallholders are forced to absorb the price risk, since they now receive a price that is below their cost of production. According to WB statistics, the price that producers earn today can only purchase one quarter of what it could 40 years ago. Moreover, with the increasingly sophisticated risk management technologies currently available, companies are able to source coffee from the lowest-cost producer and subsequently mix various blends to achieve the desired taste and texture. Today's standardized blends suggest that the importance of origin has been diminished, except for such known brands as the Colombian Juan Valdez. In certain cases, the large coffee companies mix up to 20 different coffee types, while the labels fail to identify the source of the coffee (Oxfam, 2002).

**Figure 2. Amount of coffee required to buy a Swiss army knife**


| | | | | |
|---|---|---|---|---|
| | 4.171 kg | 6.941 kg | 7.406 kg | 10.464 kg |
| Coffee price* (US cents) | 1980<br>126.8 | 1990<br>88.95 | 2000<br>65.55 | 2001<br>46.2 |
| Exchangerate US$/SFR** | 1.67 | 1.39 | 1.68 | 1.68 |

* December basis spot per lb
**Annual average

Source: Gerster Consulting

As such, the free-market system where coffee prices are set by the market no longer exists, and instead the large coffee companies are able to source their raw materials cheaply, to the detriment of smallholders, and sell at higher prices to their own benefit. Moreover, the supply of coffee on the world market exceeds the demand by about 8 percent and there is now an estimated excess supply stock of 40 million bags (Oxfam, 2002). This has also contributed to the growth in supply (over 2 percent) rising more rapidly than the growth rate in demand; between 1 and 1.5 percent annually.

## Policies and programmes supporting the export sector

In order to operate successfully, the policy reforms created in the coffee industry should be in harmony with the legal framework. This requires clarifying the roles and responsibilities of relevant institutions so that they fit in well with all policy changes (Nyangito, 2001). This important element has been somewhat lacking in the Kenyan coffee sector, as evidenced by the case of the CBK. In the past, CBK served as both the regulating agency and service provider to coffee farmers. As regulator, the Board acted as a government agent in all matters pertaining to the domestic development of the industry and international trade as directed by the Ministry of Agriculture (MOA). In the role of service provider, the Board promoted the coffee industry through marketing and processing, licensing and controlling coffee producers and processors, and conducting coffee research (Nyangito, 2001). Accordingly, the CBK was the only body able to roast, sell and export coffee. Planters had to sell to the Board and millers had to deliver all roasted coffee to them within a specified amount of time. The board also had the discretion to buy and sell all Kenyan coffee as it deemed fit. Not surprising, this dominant role created significant conflict within the industry and resulted in a highly inefficient operating structure.

In 1993, following a series of complaints regarding the inefficiency and the conflict of interest created by the CBK's dual role, the Government of Kenya (GOK) began implementing appropriate policy reforms. As such, the GOK withdrew its control of the CBK, effectively allowing it to become a farmer-led organization.

In the same wave, changes were made in the legal framework for regulating and controlling the coffee sector in 1999. The CBK could no longer control the farmers' choice of coffee pulping, factory, miller or marketing agents. The planters now had the power to appoint their own processors, millers, marketing agents and only required the Board to register these agents (Nyangito, 2001). However, these newly 'empowered producers' were unprepared to wield this amount of power and didn't quite know how to use it to their own advantage.

Furthermore, despite these positive changes, planters were still prohibited from selling cherry or parchment coffee directly to millers, individual coffee factory owners, or cooperative societies. The only avenue for selling their coffee remained the central auction through an authorized marketing agent (Nyangito, 2001).

A common theme pervading the policies supporting the coffee export sector is the CBK's considerable level of control. Although the policy reforms encouraged and permitted the active participation of more players in pulping, milling and marketing, these actors still had to be licensed and registered by the Board. Moreover, the Board retained authority to arbitrate disputes, also wielding supreme power over all players in the sector. To that end, CBK could use the Minister's power to make changes and claim autonomy to challenge any changes made by the government. This power was usually exercised when disagreements arose and the Board sought to execute its will over that of government (Nyangito, 2001).

With mounting pressure from the ensuing conflict within the industry, the government resumed its management role of the CBK in 1999. While this move sought to ease tension between farmers and millers, it also aimed to facilitate the industry's liberalization. This suggests that the policy reforms instituted, failed to clearly define the roles of each stakeholder and also made no provision for an accompanying regulatory framework for enforcing industry rules (Nyangito, 2001).

### The coffee act, 2001

The new Coffee Act (CA) was enforced in April 2002 to encourage wider liberalization in the coffee sector. Under this scheme farmers can choose between three marketing agents and as a result, some dealers and roasters no longer have coffee buying agent status (Lewin et al, 2004).

The act introduced a 'second window' as a push to allow a portion of production,about 30 percent, to by-pass the auction, to be sold directly to buyers through licensed brokers. Prices would then be determined by those established at the most current auction, with a surcharge of 3 percent. The system was established to be similar to that already in place in the tea industry (Moledina, 2005). Furthermore, the role of the CBK was changed to that of (solely) industry regulator with no intervention in local markets (Lewin et al, 2004).

The CA also encouraged commercial millers or management agents to render extension services either for payment or on credit, as a means to offer indirect financing through cooperative societies. Under this arrangement, the miller or agent is required to report the corresponding charges to the CBK (Republic of Kenya, 2002).

The heavily indebted coffee sector is also expected to benefit from the newly established Coffee Development Fund (CDF) that aims to provide sustainable and affordable credit and advances to coffee farmers for (Republic of Kenya, 2002):

- Farm development
- Farm inputs
- Farming operations
- Price stabilization

Sources of funding for the CDF include:

- The coffee development levy
- Funds provided by bilateral or multilateral donors
- Funds provided by parliament
- Interest earned from loans and advances
- Funds from other approved sources

**The coffee institutions**

The coffee institutions were created to perform a number of functions in the coffee industry. Through these players, the government sought to regulate the industry, while providing producers with the needed support for processing, marketing, selling and exporting their coffee. Although the role of each is important in building smallholder capacity, mounting inefficiencies in the institutions have limited their scope and hindered their ability to serve as a support mechanism to producers. This section, mainly adapted from Nyangito's (2000) study in three Kenyan districts (Murang'a, Meru, and Kisii) provides an overview of the roles of the coffee institutions, as well as their inefficiencies.

**Coffee factories**

Coffee processing and milling usually take place at the coffee factories that are themselves funded by cooperative society members' dues or loans. Most factories operate below capacity and are therefore inefficient. The management structure of these factories is another contributor to their inefficacy; managers must be family members of coffee growers. Such nepotism supersedes academic qualifications with the result that managers are incompetent to lead. Societies eventually break up or remain severely run down, largely because of the ensuing factory mismanagement. Factories also lack adequate rural infrastructure, including reliable electricity. Production costs are therefore high, requiring significant expenditure on diesel generated electricity, repairing and maintaining machinery (with expensive, imported spare parts, since the cost of new machines is prohibitively high), and procuring sufficient metal drying beds. Farmers therefore only receive 50 to 80 percent payouts. The following table highlights the high cost of operational inefficiency.

**Table 1. Coffee volume, payment and operation expenses 1996/97**

| Item | Murang'a | Meru | Kisii |
|---|---|---|---|
| | | **Kilograms** | |
| Coffee output | 5528.5 | 2897 | 1636.2 |
| | | **Kenyan Shillings per Kilogram** | |
| Producer Price | 35.25 | 33.4 | 22.1 |
| Fuel Costs | 0.07 | 0.01 | 0.04 |
| Wages and Salaries | 0.01 | 0.1 | 0.59 |
| Maintenance, other costs | 6.36 | 8.03 | 10.55 |
| Total Expenses | 6.55 | 8.14 | 11.18 |
| Payout to Farmers | 28.7 | 25.26 | 10.92 |
| | | **Percentage** | |
| Total Expense/Price | 18.6 | 24.4 | 50.6 |

Source: Nyangito, 2000

It is evident from the above table that farmers could and should be receiving much more for their coffee. Therefore, the critical plan of action should include reducing production and operating costs resulting from inefficiencies, improving infrastructure and providing skills and business management training.

### Cooperative societies

Cooperative societies are typically formed when groups of factories join together. Their main functions include:

- Bookkeeping and auditing factory records
- Providing credit to members
- Marketing (mainly transporting) members' coffee
- Repairing and maintaining factories
- Employing factory staff

However, most of these societies are poorly managed, highly inefficient and operate under consistent wrangling among members. A significant number of societies subsequently become fractured into smaller units, which serves to further increase inefficiency. Furthermore, management committees are tainted by corruption (allotting themselves higher levels of compensation than stipulated); most officials are poorly educated and lack the necessary management and financial skills; nepotism places unqualified family members in positions of authority for the economic benefit of clans and political groups. Table 2 highlights the effect all of this has on farmer payouts.

**Table 2. Relationship between expenses and payments for societies in 1996/97**

| Item | Murang'a | Meru | Kisii |
|---|---|---|---|
| | Kenya Shillings per Kilogram | | |
| Mean Price | 88.9 | 73 | 48.15 |
| Wages | 0.39 | 0.1 | 0.56 |
| Management Allowance | 0.01 | 0.02 | 0.2 |
| Factory Expenses | 11.64 | 4.84 | 25.14 |
| Total Expenses | 12.04 | 4.96 | 25.9 |
| Payout to Factory | 76.86 | 68.04 | 22.25 |
| | Percentage | | |
| Expense/Price | 13.54 | 6.8 | 53.8 |
| Payout/Price | 86.46 | 93.2 | 46.2 |

Source: Nyangito, 2000

One can deduce from Table 2 that payments to farmers would increase if societies' expenses were reduced.

### District unions

District cooperative unions draw their membership from coffee cooperative societies and in some cases from other farming enterprises. The unions facilitate production, processing and marketing for coffee farmers, but do not physically handle the coffee. It has been observed that societies operating with unions, particularly for bookkeeping and supervision of accounts, are more efficient with low operating costs and fewer disputes among members. Murang'a district serves as a case in point to that end. Liberalization of the coffee industry has decreased the services offered by unions to such a point that their role is being relegated to diverse administrative functions (such as banking) with the result that disagreements have resurfaced.

### Coffee millers

Prior to liberalization, coffee milling was the sole responsibility of the KPCU. The KPCU was registered as both a company and a cooperative society with membership drawn from coffee estates and cooperative unions. While KPCU provided useful extension and financing services, the group's loan recovery record was poor. The large number of bad debts has severely affected KPCU's cash flow and ability to provide loans to farmers.

### Coffee Board of Kenya(CBK)

The CBK has the mandate to regulate and control the coffee industry and also provides production services, process supervision, marketing, production research and publicity. Ninety five percent of Kenyan coffee is exported while the remaining 5 percent is consumed domestically. Prior to 1998 Kenya Coffee Auctions (KCA), a subsidiary of CBK handled the auction market. That trend was later reversed to allow the participation of other auctioneers.

Despite the policy reforms, CBK still controlled the coffee industry. This was a major bone of contention with the other stakeholders who desired more control and autonomy. Millers for instance wanted to market their coffee directly, independently of the CBK, so as to increase their profit margins. They argued that, while the CBK should be involved in marketing (owed to its ability to solicit loans for making payment advances to farmers), its role should be to function on behalf of marketing agents without being an active participant per se.

The CBK's role continues to evolve as its function has been fully relegated to that of the industry's regulating body. Despite this reform, there is still concern about the Board's direct involvement in marketing. The CBK continues to require extensive government support and increased funding, (the current 1 percent paid by farmers is insufficient), in order to carry out its duty effectively.

## Sector performance

The British introduced coffee to a mainly tea-drinking Kenya in 1900. Following independence, Kenya maintained a technically sophisticated research establishment, made up of the most advanced techniques in fruit removal and drying, developed efficiently-run smallholder cooperatives and organized the export industry around an open auction. This auction system is perhaps the dominant factor in the Kenyan coffee success story. Set up to effectively eliminate insider deals, the buyer who offered the highest price for a given lot of coffee at the weekly government-run auction received that coffee. Additionally, licensed exporters receive numerous coffee samples for personal evaluation and for assessment by customers. These appraisals then guided their bidding choices. This simple and transparent system rewarded higher quality with higher prices.

In the 1970s and 1980s Kenya benefited from high sales of coffee, which was the major export crop in FX earnings. However that trend was reversed as production fell by 45 percent from about 117 000 tonnes in 1989 to about 53 000 tonnes in 1998. The sector's initial success is attributable to the positive growing environment, the efficiency of the auction system, and high coffee prices.

The coffee industry is particularly vulnerable to external influence, (including vagaries of the international market with rapid and persistent fall in the prices of coffee, especially since the collapse of the ICA in 1989 and restriction to the primary production level) smallholders found themselves in a slump when producer prices fell worldwide as a result of a disproportionate increase in supply. Moreover, productivity fell deriving from a decrease in input usage. Coffee now lags behind tea and horticulture in FX earnings, although it remains a major export crop in the Kenyan economy (Nyangito, 2001). The country's production capacity is estimated between 100 000 and 120 000 tonnes, although it only produced about 50 000 tonnes in 2005.

High production costs have also contributed to the overall decline in production. It costs about $1 600 to produce one tonne of coffee (the minimum amount farmers require to break-even), a figure that surpasses the capability of many smallholders. Production costs include labour, fertilizer and chemicals to control Coffee Berry Disease (CBD). Since coffee is a labour intensive crop, the cost of labour is quite high; estimations were made of an hourly wage of $1.5.(Awangda 2006) Additional costs arise during periods of drought, particularly in poorly irrigated areas. These costs are often prohibitive to smallholders who lack the capacity and financing to produce the minimum amount required to breakeven, for instance, 0.5 hectares produce about 250 kilograms, which is only four bags.

It is also known that coffee export supply is responsive to prices in the long-run. As such, depreciation of the general real exchange rate with a rise in investments positively influences coffee export volumes. Therefore, investments in the form of improved infrastructure could boost coffee production and consequently export supply. A reversal in trade liberalization, particularly the liberalization of inputs could further increase production outputs. (Were et al, 2002). The following table compares the industry's performance from the late 1980s to 2001.

**Table 3. Clean coffee production and yields in Kenya, 1987- 2000/01**

| | Production (MT) | | | Yield (kg/ha) | | |
|---|---|---|---|---|---|---|
| Year | Estates | Smallholder | National | Estates | Smallholder | National |
| 1987/88 | 44 406 | 84 420 (65%)* | 128 926 | 1 210 | 730 | 842 |
| 1991/92 | 37 520 | 51 977 (58%) | 89 497 | 987 | 439 | 565 |
| 1992/93 | 32 781 | 42 426 (56%) | 75 207 | 859 | 352 | 474 |
| 1993/94 | 33 037 | 39 747 (54%) | 73 516 | 860 | 324 | 457 |
| 1994/95 | 32 795 | 62 567 (65%) | 95 806 | 855 | 510 | 595 |
| 1995/96 | 40 109 | 56 881 (58%) | 97 576 | 1,045 | 464 | 606 |
| 1996/97 | 29 737 | 38 261 (56%) | 67 997 | 748 | 312 | 419 |
| 1997/98 | 22 061 | 32 981 (60%) | 55 042 | 555 | 269 | 339 |
| 1998/99 | 28 700 | 39 400 (58%) | 68 100 | 684 | 307 | 400 |
| 1999/00 | 38 500 | 62 200 (62%) | 100 700 | 916 | 485 | 592 |
| 2000/01 | 26 900 | 24 800 (48%) | 51 700 | 640 | 193 | 304 |
| Average | 32 240 | 45 124 (58%) | 77 514 | 815 | 365 | 475 |

*Figures in parenthesis indicate the percentage of coffee produced by smallholder farmers
Source: CBK and Economic surveys

Coffee production for the period 2002-2003 was recorded at 55 000 tonnes, representing a modest increase from 51 700 during 2000-2001 (Onsongo 2002 and 2004). Onsongo (2004) attributes the slight increase to good weather conditions and to new production from non-traditional coffee farming areas. Nevertheless, the overall slump in production since the late 1980s is due to low farmer morale and declining world prices. It is estimated that the national area under coffee cultivation is 170 000 hectares (EPZA, 2005) with about 800 000 households producing 60 percent of Kenya's coffee output.

Towards the end of the 1990s a number of demoralized farmers, mostly in the Mt. Kenya region, abandoned coffee for more lucrative agricultural enterprises, mainly horticulture and dairy. However the new government that took over in 2002 sparked a renewed interest in coffee. In Western Kenya, farmers are opting out of maize farming to pursue the higher gross margins offered by coffee. Demand for planting material, mainly Ruiru 11, which is a high yielding variety (HYV) that is resistant to Coffee Leaf Rust (CLR) and CBD, is also on the rise (Onsongo, 2004).

Estate coffee production has been on the decline since large farms (usually over five acres) possess few economies of scale. This is a result of their heavy use of manual harvesting over mechanized harvesting. Additionally, they pay workers in cash, not having access to non-cash family labour as is the case for smallholders, usually with farms of less than 5 acres. Considering the current price levels, coffee farming has not been as profitable for estate farmers in recent years (see Table 4 below).

**Table 4. Kenya coffee production, yield and realization (2000—2003)**

| | 2000/01 | | 2001/02 | | 2002/03 | |
|---|---|---|---|---|---|---|
| **Sector** | **Smallholder** | | **Smallholder** | **Estates** | **Smallholder** | **Estates** |
| Production (Tons) | 25 033 | 27 081 | 28 901 | 19 152 | 34 025 | 21 419 |
| Yield (Tons/ha) | 0.195 | 0.673 | 0.227 | 0.477 | 0.267 | 0.534 |
| Cost of Production (kshs/ha) | 69 300 | 121200 | 69 500 | 123 100 | 68 900 | 120300 |
| Gross Realization (kshs/ha) | 63 888 | 95 832 | 72 777 | 109165 | 60 573 | 90 859 |
| Net Realization (kshs/ha) | -5 412 | -25368 | 3 277 | -13 935 | -8 327 | -29 441 |
| National Average Price (kshs/60kg) | | 68 | | 77 | | 66 |

Source: Coffee Research Foundation

### Quality

Kenyan coffee has also experienced a drop in quality levels over the past thirteen years. The factors that impact quality include:

- **On-farm care:** During the nine month gestation period, smallholders pay close attention to their coffee trees and are able to provide the personalized care and attention required. However, because of the low and slow payments to farmers and the high cost of inputs, their use of fertilizer and chemicals for controlling CBD and other inputs has declined, thereby reducing quality levels.
- **Soil quality:** The quality of some soils has declined considerably, creating an imbalance in acidity (pH) levels and promoting acidity that hinders the absorption of inputs. With limited access to extension services and the lack of rural finance, some producers continue to farm on these soils that yield low quality coffee.
- **Harvesting methods:** Large-scale producers do not engage in selective harvesting because of the added costs incurred. Instead, mechanized processes pick both ripe and unripe cherries and mix them together. Smallholders on the other hand, produce premium quality coffee because cherries are selectively hand-picked.
- **Pulping and fermentation methods:** Large-scale producers enjoy economies of scale and therefore use bulk processing methods, which lowers output quality.

### Payment structure

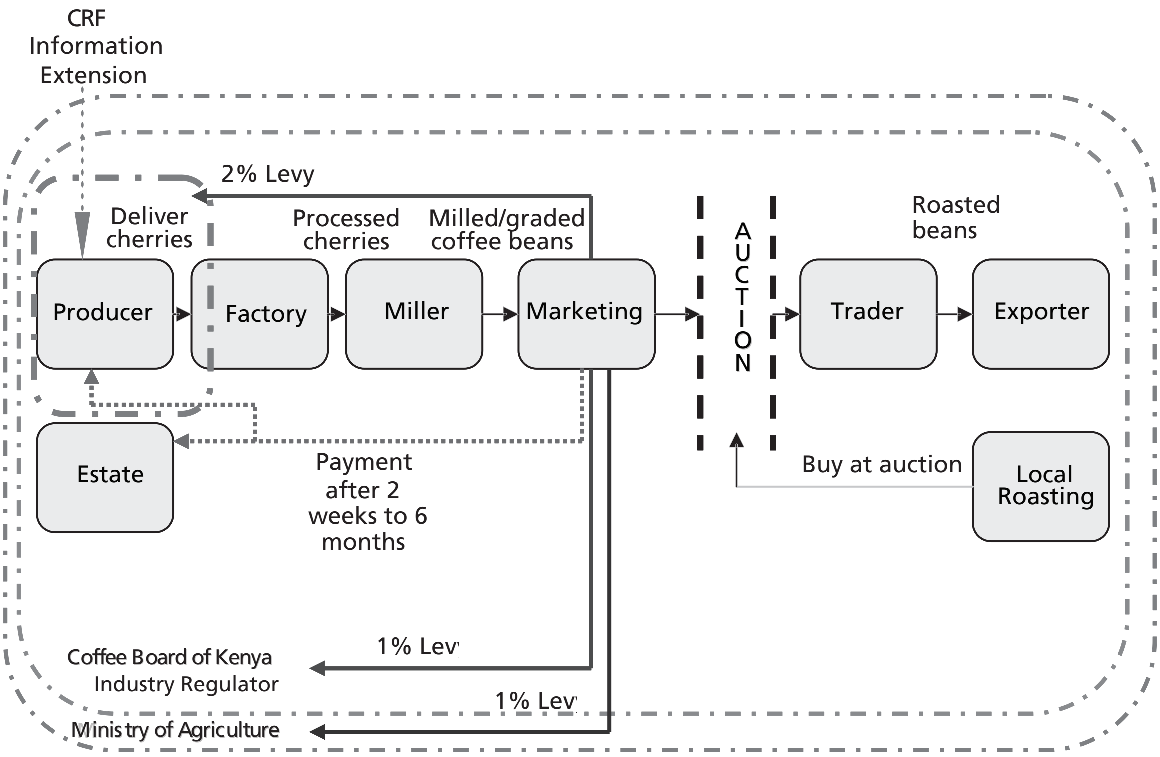
Farmers in the Kenyan coffee sector face a peculiar predicament. They have limited control over their produce and once it passes through the farm gate they have no knowledge of the grade it will be assigned, of the amount they will be paid or of when that payment will be made. Prior to liberalization, farmers were guaranteed a minimum return. The unions also provided them with vouchers with which they could buy inputs, pay school fees, and cater to their other needs. Moreover, while they are supposed to receive payment within 14 days of the coffee auction, many of the farmers interviewed reported payment delays exceeding four months.

### Flow of services within the industry

At the farm level, producers receive extension services, information, and relevant inputs from the CRF, as well as from the private sector traders. Once the coffee cherries have been harvested, they are transported to the factories for processing, and subsequently to commercial mills for milling and grading. The graded beans are subsequently passed on to the marketing agents who market them for auction at the Nairobi Coffee Exchange (NCE). Traders consequently purchase from the auction and sell to the exporters.

The Kenyan coffee value chain is depicted in the next figure.

**Figure 3. Kenyan coffee value chain**



# 2. Characterization and appraisal of factors affecting commercial viability

## MARKET STRUCTURE AND ORGANIZATION

Smallholder farmers are constrained by the coffee sector's payment structure. Uncertainty in the timing of their remuneration, makes many farmers reluctant to grow coffee exclusively, as this would effectively jeopardize their daily subsistence. Moreover, coffee is a perennial crop with a lengthy gestation period. Therefore the choice between this cash crop and other food crops, such as maize and beans, is often difficult (Takamasa, 1987).

Kenya's production costs are considerably higher than those of other coffee producing countries. Factors such as high inefficiency, mismanagement and corruption in the coffee institutions, centralization of all coffee processing activities, pulping, milling and marketing through the CBK, and managing CBD significantly raise the industry's production costs. In addition, labour requirements are also higher, although this could be addressed by increasing efficiency, particularly in harvesting.

Power jostling in Kenyan industries is fairly common as a number of sectors are highly politicized. However, the tide is shifting and the pursuit of liberalization has adopted a new strategy. The assistance of legislators in the tea and coffee growing areas has been sought to help free the industry. The ministers of parliament are promoting full liberalization under the Coffee and Tea Parliamentary Group (COTEPA). Nevertheless, the influence of political actors remains strong, particularly in the coffee sector.

### Kenya planters cooperative union (KPCU)

Influence of political actors is especially noted in the KPCU, which is viewed as the least efficient of the three marketing agents. Although it lost its milling monopoly several years ago, it still accounts for about 70 percent of the country's milled coffee (Opala, 1999) and this figure is mostly comprised of smallholders. In addition, KPCU has the capacity to mill three times Kenya's production level of 45 000 tonnes, making it the largest miller.

KPCU was founded in 1937 as a farmer owned association. Its purpose was to provide credit facilities, husbandry services, education and general support to coffee farmers. In recent years, mismanagement, poor governance and a lack of business skills have created laxity within the body, rendering it less effective.

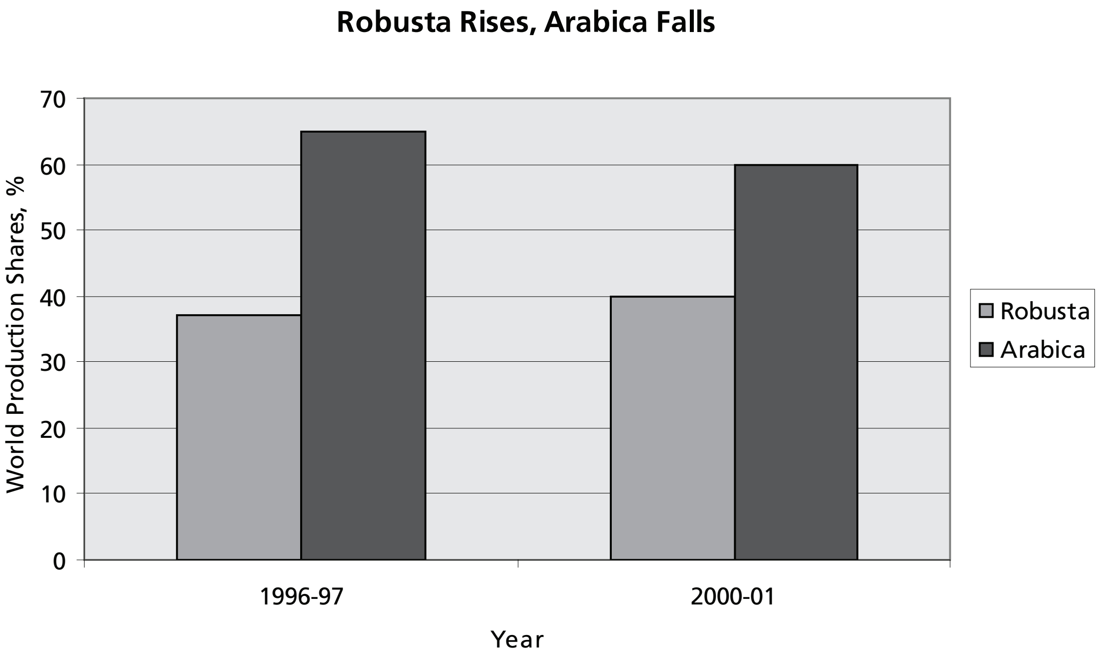
The structure of the KPCU sees it as both a union and a company, raising questions of conflicts of interest. Producers fear that since the system is so opaque, they remain at the mercy of the KPCU which can change and/or mix different coffee lots, thereby failing to pay high quality producers an appropriate premium. Moreover, a number of producers have had to wait for as long as six months to receive payment for their coffee. When those low payments do come in, they have no way of knowing whether what they are receiving is fair.

The lack of transparency, low and slow payments etc, have caused a number of smallholders to leave the KPCU for either Socfinaf (a privately-owned French company) or Thika Coffee Mills. These other marketing agents operate more transparently and producers are paid sooner.

**Trends in the global coffee chain**

In recent years, with the increasing trend of mixing coffee blends, the demand for cheap coffee (which is often of low quality) is on the rise, thereby depressing prices in the mainstream market and decreasing the demand for quality and specialty end-coffee (Oxfam, 2002). As seen in Figure 4, supplies of Arabica have declined, while supplies of Robusta have increased.

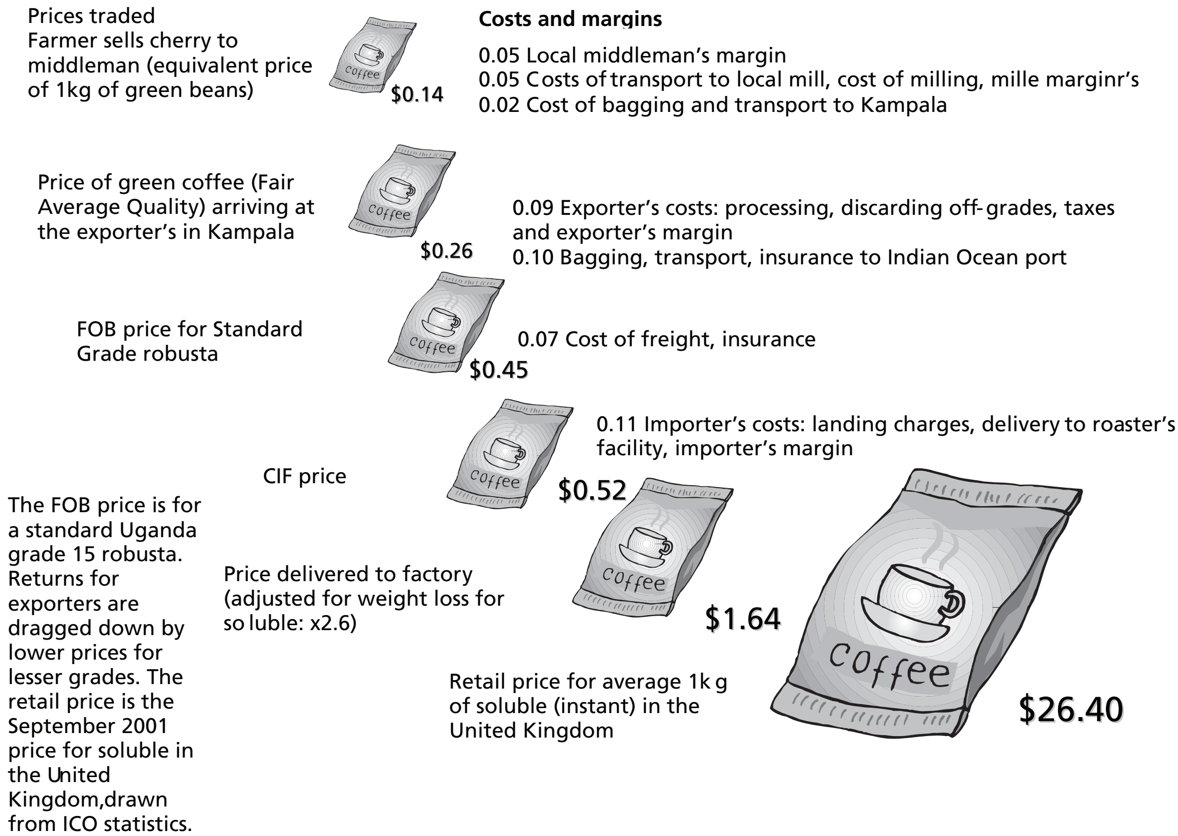
**Figure 4. The rise of Robusta and fall of Arabica**




Source: ICO/ACPC (in Oxfam, 2002)

In addition, the drastic jump in price received according to value added, explains why smallholders continue to be marginalized. Figure 5 provides a compelling illustration of this comparable lateral hike in profits in the Ugandan coffee chain.

**Figure 5. Profit-making in the Ugandan coffee market chain**

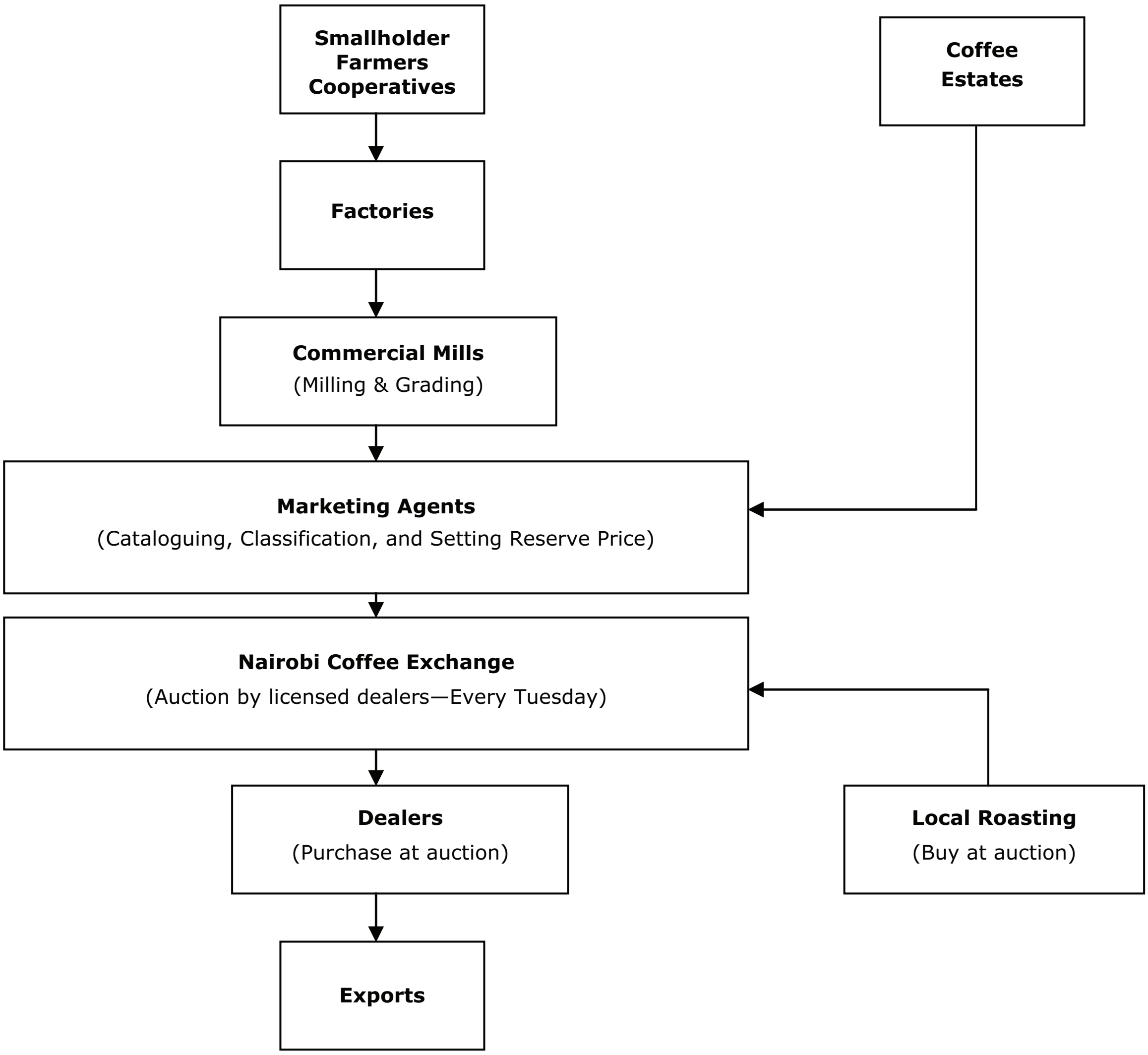



Source: ICO Statistics (in Oxfam, 2002)

## Marketing structure

Kenyan coffee is traded at the auction, which is usually held on Tuesdays at the NCE. Licensed exporters assemble and bid for the lots listed in the catalogue. Ten days before the auction, the coffee to be auctioned is sent to the dealers and marketing agents for evaluation. Following the bidding, dealers and exporters are given seven days in which to pay for their selected lots. The marketing agents receive the proceeds, subtract the appropriate fees for marketing expenses and statutory deductions and then pay the growers (EPZA, 2005). The industry's marketing structure is depicted in Figure 6.

**Figure 6. Marketing structure of the Kenyan coffee industry**




Source: Coffee Board of Kenya (September, 2004)

## Consumer demand and preferences

Kenyan coffee is widely considered to be of high quality, although its 'acid' taste is primarily preferred by Germany (the second largest market) and Scandinavian countries (with the highest per capita consumption) where it commands a high premium. Consumers in the United States (the largest market) and Japan do not accord the same value to acidity, and as such, are unwilling to pay a premium for it (Wikipedia, 2006). It is therefore understood that Kenya's product caters to a niche market, and as such doesn't compete directly with Brazilian and other milder coffees. This is an inherent advantage since this profitable characteristic is a result of the geographic climate of the country's consistently high growing altitudes. Kenya can accordingly capitalize on this strength and specifically target the German and Scandinavian markets, effectively capturing the new entrants to the coffee drinking market (Lewin *et al*, 2004).

Consumers below the age of 35 have relatively elastic coffee drinking habits. After 35, the proportion of people who convert from being 'non-coffee drinkers' to 'regular coffee drinkers' is quite low. It is therefore crucial to capture young people and develop their coffee drinking habits early on (Lewin et al, 2004). The following table shows per capita consumption in selected importing countries.

**Table 5. Per capita consumption of coffee in selected countries (in kilograms)**

| Country | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|---|---|
| United States | 3.98 | 4.1 | 4 | 4.14 | 4.24 | 3.96 | 4.08 | 3.94 |
| European Community | 5.33 | 5.57 | 5.56 | 5.52 | 5.51 | 5.37 | 5.29 | 5.37 |
| Finaland | 8.62 | 10.56 | 11 | 11.71 | 11.37 | 11.26 | 11.01 | |
| Denmark | 8.7 | 9.91 | 8.97 | 9.57 | 9.67 | 8.61 | 9.66 | 9.17 |
| Norway | 9.04 | 9.77 | 9.18 | 9.52 | 10.56 | 8.79 | 9.46 | 9.15 |
| Sweden | 8.17 | 8.78 | 8.46 | 8.47 | 8.7 | 8 | 8.5 | 8.34 |
| Austria | 7.21 | 8.11 | 8.17 | 8.2 | 8.44 | 6.57 | 7.74 | 7.04 |
| Germany | 7.37 | 7.16 | 7.22 | 7.01 | 7.46 | 6.7 | 6.9 | 6.59 |
| Switzerland | 7.97 | 7.82 | 6.03 | 6.84 | 7.26 | 6.91 | 6.8 | 6.78 |
| Netherlands | 8.9 | 9.84 | 9.19 | 7.56 | 5.71 | 7.21 | 6.48 | 6.55 |
| Belgium-Luxembourg | 6.39 | 6.38 | 5.69 | 7.53 | 5.29 | 7.32 | 5.53 | 9.02 |
| Italy | 4.86 | 4.95 | 5.08 | 5.16 | 5.14 | 5.36 | 5.44 | 5.41 |
| France | 5.48 | 5.69 | 5.68 | 5.39 | 5.52 | 5.5 | 5.31 | 5.54 |
| Portugal | 3.38 | 3.79 | 3.75 | 4.3 | 4.84 | 4.09 | 4.48 | 4.37 |
| Spain | 4.21 | 4.49 | 4.63 | 4.68 | 5.15 | 4.65 | 4.27 | 4.26 |
| Greece | 2.2 | 4.19 | 4.3 | 3.87 | 3.67 | 4.69 | 3.47 | 4.73 |
| Ireland | 1.78 | 1.45 | 1.59 | 1.49 | 2.16 | 1.31 | 2.3 | 2.08 |
| United Kingdom | 2.25 | 2.43 | 2.46 | 2.62 | 2.27 | 2.38 | 2.19 | 2.2 |
| Cyprus | 3.53 | 4.14 | 3.24 | 3.92 | 4.32 | 5.37 | 4.34 | 4.48 |
| Japan | 2.98 | 2.83 | 2.9 | 2.91 | 3 | 3.17 | 3.31 | 3.26 |

Source: Lewin et al (2004).

## Risks and sources of vulnerability

The price risk has effectively shifted to the smallholder who lacks the appropriate support mechanism to be able to absorb that risk. Moreover, the lack of information and poor dissemination structure, high production costs, high labour costs and slow payments mean that the coffee dependent producer is trapped in a vicious cycle. Additionally, the smallholder, the price taker, holds the least amount of bargaining power within the value chain. The smallholder is the least powerful and the least satisfied actor in the chain. On the other hand, the trader is the most powerful and profits the most.

According to Oxfam (2002), coffee producers receive only 1 percent (or less) of the price of a cup of coffee sold in a coffee bar. In addition, they receive about 6 percent of the total value of a pack of coffee sold in grocery stores. Not surprisingly, coffee beans have become marginalized, now accounting for only 18 percent of the United States retail price in 2001, whereas in 1984 green bean stood at 64 percent.

Coupled with declining world prices, the power imbalance in the coffee supply chain presents another source of vulnerability to the Kenyan small-scale producer. As the price taker, the farmer is unable to negotiate effectively and owed to the policy of no value addition, the smallholder can only receive the lowest price for the ungraded beans. However, if value addition were to be increased at the smallholder level, (at least the removal of the outer layer of the cherry allows for quality grading), a better price could be negotiated. Since producers mostly sell their coffee in its cherry form, they continue to receive a low percentage of the total value.

The smallholder therefore requires adequate access to information and training, and should be able to command a price based on production costs and existing market prices. In addition, smallholders should be trained in appropriate diversification techniques with support from the CRF. Some producers have begun diversifying their income base however, with limited knowledge, they have chosen such crops as maize, which significantly impacts the quality of the coffee produced. As such, the producers should be trained on what crops are suitable for intercropping with coffee, as well as all the useful techniques involved.

## Efficiency and profitability of production and processing technologies

A considerable percentage of smallholders lack information about useful and appropriate technologies. In the past, the CRF was actively involved in disseminating such knowledge, however with a significant budget cut, the foundation is no longer able to provide important recommendations. As such, smallholders are left to cope with outdated technologies, inefficient machines and low productivity tools.

Small estate owners are in a slightly better position, although they are faced with similar constraints because of limited extension services and poor rural infrastructure. Some producers continue to use old planting materials, use manual pulping machines, lack access to metal drying beds and so on. These factors also impact the quality of coffee.

In the case of farm machinery, a number of producers complained about the unavailability of spare parts. Because the machines are produced overseas, it is difficult to maintain them and spare parts are both expensive and difficult to obtain in local markets.

CRF has an important role to play in providing production and processing technologies, as such, the MOA should seek to increase funding and support to help improve the sector's overall efficiency.

## Competitive advantage and value creation

As compared with other coffee producing countries, Kenyan coffee enjoys the added advantage of consistently high growing altitudes. The main growing area stretches south from the slopes of 17 000 foot Mount Kenya, almost to the capital, Nairobi. There is a smaller coffee growing region on the slopes of Mount Elgon, which borders Uganda. Most of the coffee sold in specialty stores comes from the central region (Davids, 2002). Kenya's farmers produce 250 million pounds of Arabica coffee a year, on 350 000 small farms. Kenya is Africa's 2nd largest producer of coffee (250 000 Kenyans involved), right behind its neighbour to the north, Ethiopia (Café Connection, 2005). Even when compared with Ethiopia, Africa's largest exporter, Kenya's distinct Arabica flavour stands apart from its competitors.

# 3 Guidance on strategies and actions to sustain and improve commercial viability

The factors that have impacted the decline in productivity and quality of Kenyan coffee have been presented in the preceding sections of this case study. This segment will consequently seek to provide recommendations on strategies and actions that could prove useful for reviving the industry. To that end, it would be useful to provide an overview of the key critical success factors as they pertain to each actor in the Kenyan coffee value chain.

**Table 6. Key critical success factors in the Kenya coffee value chain**

| | Critical success factors | Possible corrective measures |
|---|---|---|
| | •Affordable inputs<br>•Education on good husbandry practices, business management skills<br>•Information (Market Prices, Technologies, New Products, Reversing Soil Acidity, Certification) | •Subsidies and affordable rural credit<br>•Extension Services (Re-instate Coffee Officer—MOA), train board members information bulletins, rural radio, internet sources |
| | •Production volume<br>•Management competency | •Increase growers production output<br>•Train managers in business management skills<br>•Promote good governance |
| **Cooperative Societies** | •Management skills<br>•Management competency<br>•Information (Market Prices, Technologies, New Products, Reversing Soil Acidity, Certification)<br>•Ability to operate independently | •Training and extension services<br>•Transparent management selection process<br>•Information provided by CRF<br>•Promote good governance<br>•Control political interference |
| **Marketing Agents** | •Accuracy of information to be disseminated<br>•Quality of coffee received | •Monitor all information disseminated within the sector<br>•Ensure Quality Control officers are dispatched to each district |
| **Coffee Board of Kenya (CBK)** | •Management skills<br>•Management competency<br>•Funding<br>•Ability to regulate | •Management training<br>•Transparent management selection<br>•Increased funding by MOA<br>•Increased support from MOA |
| **Coffee Research Foundation (CRF)** | •Funding<br>•Staffing/Personnel | •Provide additional government funding |

Recommendations on those requisites that could improve commercial viability are presented below.

## Institutional

### Defining the roles of coffee institutions

A recurring theme throughout this paper has been the monopolistic role of the CBK and the inefficient management structure of the coffee institutions in general. The GOK has already initiated a series of restructuring activities with a view to reform the coffee sector. In this regard it will be useful to provide explicitly defined roles and responsibilities for each coffee institution. Such clarity would stimulate greater efficiency and would also encourage internal collaboration, while promoting partnerships across the sector.

To that end, the Kenyan coffee sector will benefit from increased political will, particularly since the GoK is the industry's key change agent. The new CA addresses some of the constraints impacting the sector and seeks to adequately address them. The MOA should therefore play a heightened role to ensure the successful implementation of the needed changes. By actively supporting the CBK and providing increased funding to all the relevant actors, the MOA can spur significant overall improvements in the industry.

The role of the CBK as the industry's regulating body intensifies its importance in the coffee sector. However, the predominant sentiment among all actors (CBK included) is that the Board lacks sufficient backing and funding from the MOA to function effectively. As such, all relevant stakeholders should be made fully aware of the responsibilities and activities to be carried out by the Board. Additional funding should also be provided to enable tighter regulation, while simultaneously incorporating a system of checks and balances to promote good governance and increased transparency.

As part of its regulatory function, CBK should also be charged with ensuring that producers are paid in a timely manner. Many complained that the marketing agents often keep their coffee in storage and only sell at appointed times. As such, producers remain unpaid for as long as six months. Some producers have changed agents to one of the private ones that guarantee payment within fourteen days of the sale. However, the CA states that, "a marketing agent shall pay the grower directly after the sale of coffee by such agent and on making statutory deductions within seven days of receipt of the coffee sales proceeds from the dealer as specified in the sales catalogue and there shall be no coffee pool in the custody of any marketing agent" (Republic of Kenya, 2002). The CBK should therefore ensure compliance with this and other regulations.

The roles of the other coffee institutions should also be clearly defined and effectively communicated. In one of the interviews conducted, producers expressed their lack of understanding of their rights and of the roles of the various institutions. This evidently places them in a vulnerable position, thereby reducing their bargaining power.

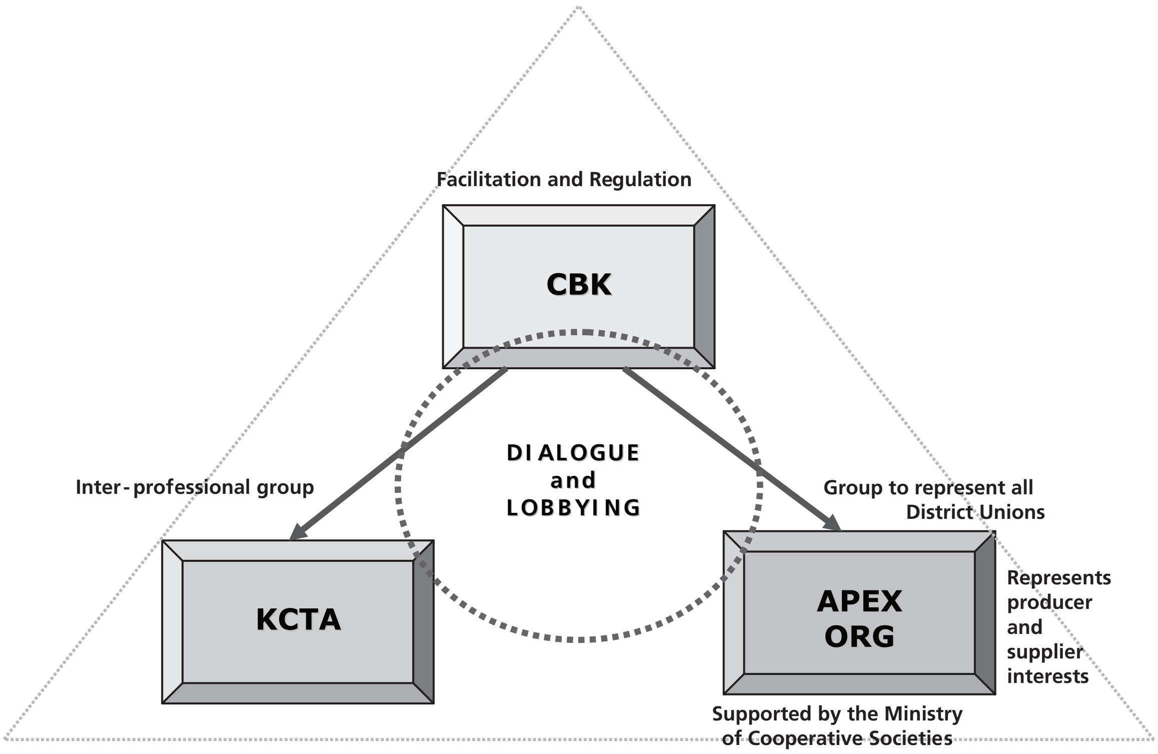
The MOA can further help to ensure good governance within the institutions by promoting and facilitating business management training and by helping to curb the interference of external political actors. Leaders of farmer-led organizations should be chosen based on management ability and knowledge of coffee, rather than on how vocal they are. Moreover, the organizations will also benefit from increased transparency in management and operations. Some producers complained that some members of the management committee receive payments exceeding their actual coffee production. In certain cases, these producers were pressured into joining specific cooperative societies, instead of being allowed to form their own groups based on common interests.

Finally, the roles of the MOA and the Ministry of Cooperatives (MOC) should be explicitly defined. Some producers expressed their lack of understanding of what each Ministry's responsibilities include. As such, their expectations of the activities and support to be provided by each actor are often unmet, suggesting that one actor is more actively involved in the coffee sector than the other. In addition, while marketing is carried out by the MOC, processing is governed by MOA, but there is little inter-ministerial collaboration. The GOK should therefore create an enabling environment for building partnerships within the sector, while also empowering the CBK to effectively act as the industry's regulator.

**Strengthen public—private partnership**

As mentioned earlier, one of the elements lacking in the Kenyan coffee sector is effective coordination and collaboration among industry actors. This is especially important considering the low capacity of small-scale producers as the weakest members of the value chain. By instituting an effective structure to strengthen public-private partnership, smallholder capacity can be built, while providing them with much needed support in all aspects of coffee cultivation, processing, marketing and selling. An example of such a structure is depicted in the figure below.

**Figure 7. Proposed public-private partnership framework**




The CBK would continue its role as regulator, while facilitating collaboration between the KCTA and the Apex Organization (AO) established to represent the interests of smallholders. The AO would lobby the government for appropriate changes to cater to the needs of the producers. In addition, considering that the organization may lack the necessary skills and experience to operate effectively, the MOC would provide the necessary support to ensure that it operates efficiently.

## TECHNICAL

### Improving access to information

A major complaint voiced by producers is the lack of information. To the Kenyan producer, the transforming, marketing and selling of coffee is an opaque system and the farmer essentially loses all control and knowledge of coffee beyond the farm gate. Whereas in the past the GOK would provide information about market prices, and would provide extension services through the MOA and a dedicated Coffee Officer (CO), today the farmer relies on inconsistent and sometimes unclear information. Various industry actors are involved in improving information access, however there is no central body to monitor the dissemination of information or to control the accuracy of the information provided.

The KCTA is one such body that seeks to empower producers with information on market prices. However its efficacy is limited for several reasons. Producers often misinterpret pricing information because it is not detailed. For instance, a producer who hears that coffee sold for $151 at the auction will wrongly assume that the chairman of producer's cooperative society dishonestly paid 16 Kenyan shillings ( KES) per kilogram (less than $0.50) for the prodcuer's four bags of class 4, grade B coffee beans. This is because the producer failed to realize that the $151 was paid for 10 bags of premium grade AA coffee. It is therefore important to accurately portray market price information.

Another complaint coming from producers is that they are not always aware of when the radio broadcasts will be made and on what stations. Moreover, the time allotted is insufficient and information printed in newspapers isn't always accessible. Solutions to these problems would entail allotting adequate time for rural radio broadcasts, ensuring that producers are well aware of the times and radio stations on which the information will be presented. In addition, producers would benefit from having printed bulletins sent to their respective cooperative societies (who would subsequently disseminate the relevant information), shared experiences with other farmers through handouts, seminars, internet and through demonstration sites.

Beyond information on market prices, producers also cited the following as critical information needs:

- Technologies
- New products (inputs)
- Reversing soil acidity
- Good crop husbandry

### Research

The CRF is an important actor in the Kenyan coffee sector. CRF disseminates useful information on improved technologies and new products, controlling soil acidity etc, through the MOA Extension Service. The CRF has maintained an 'open door policy' which encourages farmers to visit the station directly to ask questions and to receive advice. In addition, farmers are encouraged to bring soil samples every other year to test for acidity. The foundation's outreach has shrunk in recent years owed to a marked decrease in funding. Three years ago, CRF operated with a budget of 18 billion KES and 700 personnel (of whom 30 had postgraduate degrees). Today its budget has shrunk to 8 billion KES and 220 personnel (of whom only 10 possess high level degrees). Moreover, the coffee farmers were themselves more proactive, such that the CRF used to receive 6 000 soil samples annually. Today that figure has dropped to 3 000.

The research foundation was additionally involved in capacity building through the training offered to the MOA's CO and to the District Agriculture Officers (DAOs). 'Farmer Field Days' were another means by which farmers were trained in good crop husbandry techniques, while the 'Farmer College' also provided more in-depth training.

The lack of sufficient funding, forced the CRF to focus on a few priority projects, which has also meant a decrease in the number of recommendations for improving coffee production and quality. Furthermore, interaction with farmers has become less frequent and somewhat sporadic. Also, while the demand for planting materials (seedlings) remains high, CRF is only able to provide 15 million.

The CRF is funded by the farmers (there is a mandatory 2 percent levy paid to research prior to the producers receiving their payment). Since production has declined considerably in recent years, that percentage has become insufficient. As such, the GOK should seek to support CRF by providing additional funding to compensate for the shortfall. The CRF should additionally continue to seek external sources of funding through its own commercial activities (presently, a quarter of its disposable income is derived from the sales of its demonstration site coffee), including contracts from chemical companies for chemical testing, implementing donor funded projects etc.

The new CA offers additional benefits to research within the sector. It has helped to make CRF more autonomous (separating the levies paid to CRF and CBK so that CRF no longer has to submit a budget to the Board for approval). The research foundation is therefore able to run as a parastatal under the MOA. Conversely, the introduction of the 'second window' could affect the foundation's ability to collect part of its levy unless a robust legal framework is established to that end.

**Ruiru 11**

The CBD was first discovered in Kenya in 1920 and is caused by the virulent strain of *Colletotrichum coffeanum*. The fungus lives in the bark of the coffee tree and produces spores which attack the coffee cherries. Spraying has been determined to be the best way to avoid the disease (Mitchell, 1988). The CLR on the other hand, mainly infects leaves, but also spreads to young fruits and buds (Osongo 2002). Together these diseases have helped to increase the coffee farmer's production costs because of the repeated need for spraying with expensive fungicides. The CBD calls for captafol and copper-based fungicide, while CLR requires spraying with copper-based fungicides at 3-5 kg/ha at 4-6 week intervals during the rainy season (Mitchell, 1988).

The CRF has developed a new variety, 'Ruiru 11', which was released in 1985 and which is resistant to both diseases. Its main benefits include:

- Reduces production costs by 30 percent(cost of fungicides)

- Increases productivity per hectare (because it's a compact crop, more trees can be planted per hectare) to 3.5 metric tonnes/ha
- Produces premium quality coffee comparable to the traditional varieties

Considering the significant advantages offered by Ruiru 11, it is surprising that it only has a 20 percent adoption rate. A key contributing factor to this situation is the producer's lack of knowledge. The CRF ascertains the quality of Ruiru 11 as being equal to traditional coffee varieties. The research foundation, in a bid to support its scientific claim, has conducted numerous 'blind sampling' cupping exercises where quality control (QC) tasters were given samples of unlabeled coffee to taste. In each case, they were unable to identify the "perceived low quality Ruiru 11".

The message about the inferior quality of Ruiru 11 is promoted by the traders. A number of the producers interviewed revealed that the "true test of quality" occurs at the "cupping stage" which is handled by the roasters. However, unless a farmer specifically identifies his or her coffee beans as being Ruiru 11, all varieties are mixed together and remain undistinguished. Since the farmer is unaware of what happens further down the value chain (after the beans have left the farm gate), the farmers is unable to dispute the validity of the message. The issue of quality is also raised because one of the 'parents' of the Ruiru hybrid is a Columbian variety (Katimo), which is viewed as being inferior to traditional Kenyan varieties. However, with increased information dissemination and with access to reports from CRF and others, farmers will be able to command the same premium price for Ruiru 11 as with other varieties.

Another group of producers in the southern part of Kenya's coffee producing region had been told this new variety wouldn't grow well in that area. As such, without testing this theory and without seeking further information, this group of farmers maintained their traditional varieties. However a visit to a neighbouring farm in the same region proved otherwise. A small estate owner with 5 hectares of land displayed 2.5 hectares of exceptional coffee trees- Ruiru 11! This producer (whose remaining 2.5 hectares grow traditional varieties) stated that he saves about 25-30 percent of overall production costs with Ruiru 11.

It has been suggested that this message be promoted because the 30 percent reduction in production costs primarily comes from the cost of fungicides. Since it is often the traders who provide the chemicals, Ruiru 11 effectively cuts out a significant proportion of their revenues. Moreover, research has proved that the variety, while providing many benefits to the producer, is not of inferior quality. This further highlights the need for a central system for monitoring and regulating the dissemination of information within the sector.

Furthermore, the wider adoption of Ruiru 11 should be encouraged and supported by the GOK, in consideration of the benefits implied. The CRF is presently unable to meet the demand for new planting materials; however a system could be created to allow factories and/or cooperative societies to produce their own seedlings from pollen provided by CRF. Start-up capital would be required to set up this structure, but once operational, it would be self-sustaining.

## ECONOMIC

### Differentiation

Although consumption in Germany is presently stagnant, it is growing in other parts of Europe and the North European differentiated and value-based product market is also increasing considerably. In this segment, products must be distinguished by distinct origin, defined processes, or exceptional characteristics such as superior taste or few defects. Examples of lucrative channels for these products include (Lewin et al, 2004):

- Geographic Indications of Origin (Appellations)
- Gourmet and specialty
- Organic
- Fair trade
- Eco-friendly or shade grown
- Other certified coffees

Kenya's differentiated product, which already commands a premium, can further maximize this potential by strengthening its position on the geographic indications of origin and the gourmet and specialty mark. The 'Kenyan Brand' is already widely recognized and can be intensified through concentrated marketing efforts in the target markets where it is preferred.

While adopting 'fair trade' practices would guarantee reasonable income levels for a select number of farmers, only a small percentage of the Unites States consumer market presently supports this initiative. In Germany and other Scandinavian countries that figure is also low. Nevertheless, it would be beneficial to optimize this opportunity and at least secure consistent income sources for a few, while other outlets are developed for the remaining majority. While this could be beneficial, it shouldn't be seen as a long-term solution, since it could result in the 'Fallacy of Composition' where all actors in the market begin to rush towards the same exit. As other coffee producers also seek to exploit the opportunities created by fair trade coffee, the supply could eventually surpass the demand, thereby reducing its overall profitability.

Although these differentiated segments can provide some producers with a competitive advantage and added value, they are still relatively small and perhaps difficult to access. Nevertheless, they are important for the impressive growth rates and for their potential for improved social, economic and environmental benefits for farmers (Lewin et al, 2004). Considering the fact that Kenya has already established a strong brand, it can leverage this to effectively break into the differentiated segment more efficiently.

Other positive externalities of third-party certification in differentiated segments include (Lewin *et al*, 2004):

- Increased use of rural labour and organizational development
- Crop diversification and reduced input costs minimize financial risk
- Better natural resource management and biodiversity conservation
- Reduced risk owed to improved drought and erosion resistance
- Crop resilience to adverse weather
- Fewer health risks due to potential mishandling of agrochemicals

These added benefits help to shift the focus from price premiums, which could diminish over time as the segments grow.

Finally, an important element for successfully sustaining high exports through any of these means is consistency. Whether it is catering to the gourmet and specialty focused customer, or to the eco-friendly oriented one, the quality of all coffee output should be consistent, this highlighting the need for an effective QC structure within the sector. This will help to boost the country's exports, thereby creating a stable source of income for smallholders.

**Extension services**

In the past, the MOA had a dedicated CO who oversaw the coffee sector and facilitated the provision of extension services. The individual was a knowledgeable expert in coffee production and was supported by several DAOs who were assigned to each coffee district, and 5 600 technical officers, of which 4 000 worked in the field. With this structure in place producers had regular contact with extensionists who provided them with useful information, relevant training and other assistance.

In recent times, the CO has been replaced with a 'crops officer' who is expected to provide the same level of support for such a specialized crop as coffee as for other crops. As well, the mobility of extension workers has been limited by the lack of resources. Accordingly, producers have noted a considerable decrease in extension services. Some stated that they hadn't seen an extension worker in three years, although their need for training in good crop husbandry, new technologies etc, remains high.

It is important for the MOA to coordinate the provision of extension services to all coffee districts. At various stages, different actors were providing training to producers in an uncoordinated manner. By regulating this important aspect, the accuracy of the information provided to producers can be monitored, while also eliminating redundancy and inefficiency. Furthermore, it will allow the CRF to disseminate useful information on new technologies, improved crop husbandry, controlling soil moisture content and acidity, as well as providing improved seedlings.

In order to address this issue, some of the cooperative societies are seeking to employ their own salaried extension worker to provide them with the necessary training. However the lack of adequate resources is an immediate constraint. Some societies are therefore looking to link up with other like-minded counterparts to share the associated costs. They would benefit from the support of the MOA.

Extension services should additionally seek to empower the producer to increase bargaining power. Instead of remaining the price taker, the smallholder should be able to bargain with buyers, factoring in production costs in order to receive appropriate compensation. Such a system would help the producer to see 'coffee as a business.'

This would also require that the producer is fully aware of the quality grade of his/ her coffee beans at the farm gate. Training in QC, as well as having QC officers inspect the lot before it leaves the farm will help to increase transparency within the sector and will improve the predicament of the smallholders.

Finally, many of the producers interviewed expressed their desire to shorten the marketing chain by eliminating the marketing agents so that they can deal directly with buyers. While the cooperative societies offer them increased economies of scale, many of the groups lack the necessary skills and know-how to be able to deal directly with buyers. They identified the existing knowledge gap and stated that they would seek to build their capacity to attain that level of empowerment; the MOA can facilitate this.

A (negative) trend that has evolved in recent years has been the re-deployment of CO to other sectors. The CRF gave several instances where officers were trained and were subsequently assigned to other crops. This creates a gap in the coffee sector and doesn't ensure continuity once existing officers retire. It further hampers the provision of extension services.

Another important issue that is coming to the forefront is that of continuity in the sector. The ageing population creates concern over the future of coffee production in Kenya. This is because with little (financial) incentives, the younger generation is uninterested in coffee farming. As such, many of the youths migrate to urban cities in search of gainful employment, thereby abandoning the rural areas. Moreover, those who do remain to farm coffee are 'tepid' and lack the necessary skills to produce high quality coffee.

The extension service can help to alleviate this problem by mainstreaming coffee production with other issues, thereby providing more comprehensive training. This approach would also focus on highlighting the benefits of adopting improved farming techniques and would reiterate the advantages of producing premium quality coffee. This could be achieved through young farmer programmes at the Kenya Coffee College, offering courses that link coffee with other issues and that promote 'coffee as a lifestyle'. Other ideas for ensuring continuity include:

- School outreach programmes (to create an interest in coffee farming)
- Training in quality production (so that the sector doesn't only absorb those students who didn't succeed academically and who were subsequently forced to work on farms)
- Youth targeted training programmes (to build business management skills etc)
- Engendering extension services (in certain cases, the wives of the producers and female headed households weren't privy to training and extension services. This should be taken into consideration to accommodate and encourage female participation during training).

**Rural infrastructure**

In many areas, producers are forced to generate their own electricity, use manual pulping machines, collect rain water or pump their own water, often devising piping systems to tap water from nearby streams. Moreover, rural telecommunication is almost inexistent. This increases the cost of doing business, decreases productivity and reduces the producers' earnings. Additionally, because of the poor road network outside the urban cities, producers are faced with increasingly high transportation costs (which often lowers the price they receive from buyers) and which also increases the travelling time from the farm to the factories, to the buyers. During the rainy season, the extremely poor roads render transportation virtually impossible. These factors also impact the quality of the coffee produced, often yielding lower grades.

Ironically, a 1 percent levy is required by the CA for the express purpose of building rural infrastructure. However, the effect of this levy is yet to be seen. The MOA should accordingly strengthen the CBK to ensure the collection of the appropriate levy and also to monitor the improvement of rural infrastructure.

While improving the infrastructure, the rural radio network should be developed simultaneously to facilitate the dissemination of relevant industry information.

**Increasing value added and local consumption**

Although Kenya is primarily a tea drinking society, the local market for coffee consumption can be developed. A key factor for the low adoption of coffee stems from the prohibitively high purchase price. Based on the current legal framework, producers are expressly prohibited from adding value to the coffee beans. Beyond harvesting, they are not permitted to retain any portion of their coffee for processing for personal consumption. In order to drink coffee, producers would have to buy it at the auction, which, considering their lack of knowledge of the auction system, their limited bargaining power and the simple fact that they cannot afford the high price, results in them being effectively hindered from consuming the product. The same is true for most of Kenya's low-income population.

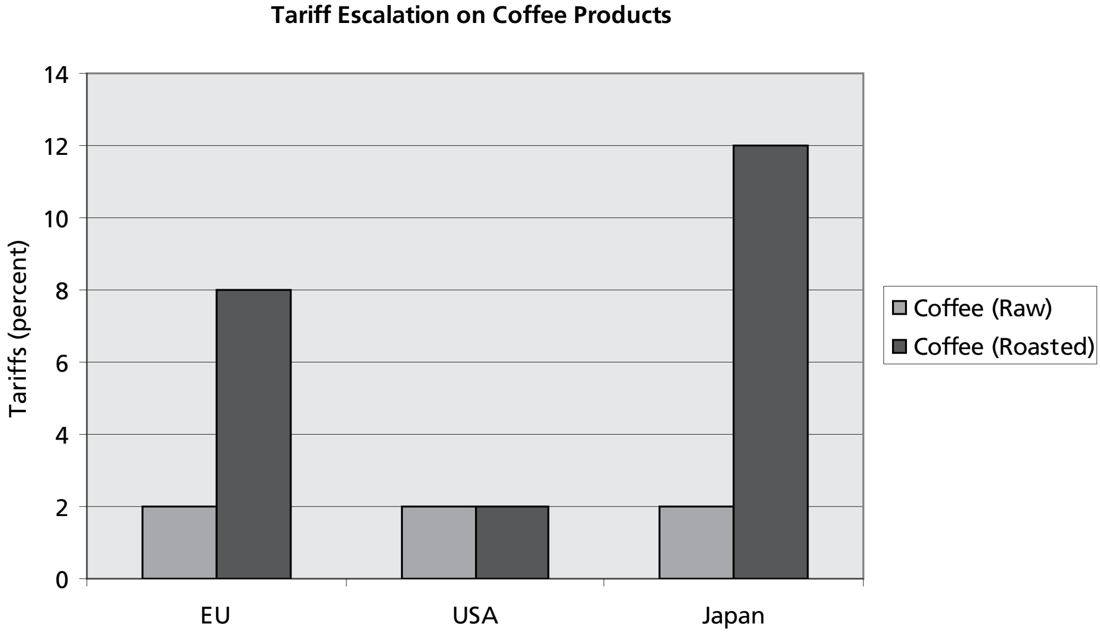
As such, the legal framework should be modified to stimulate local consumption. Producers should be permitted to retain a percentage of their production to process for themselves. Additionally, cooperative societies can serve to create a robust system for processing and selling directly to the local market through the 'second window'. Their capacity should accordingly be built to that end. Another potential for increasing value addition and catering to the domestic market would be to encourage the production of diverse coffee products, such as coffee drinks (comparable to Starbucks' iced coffee drinks) and other coffee products.

Increasing local value addition would also serve to increase smallholder earnings. According to Oxfam (2002), 94 percent of the coffee exported from developing countries was in its green bean state. As seen in Figure 3, there is a dramatic jump in the profits derived through each value addition stage in the coffee value chain. Therefore, remaining at the lowest level, producers are effectively supplying raw materials that yield the lowest returns. However, by building their capacity to add value at the farm level, their revenues could increase considerably, which would have positive effects on all facets of their lives.

Perhaps one of the factors hindering value addition is the tariff escalation presently in place in many importing countries. Higher tariffs are often levied on goods exported at advanced stages of processing, especially for key commodities, upon which smallholders depend (FAO, 2004). As can be seen in Figure 8, the percentage charged for roasted coffee versus unprocessed beans can be prohibitive to local value addition.

In addition, the Food and Agriculture Organization of the United Nations (FAO) (2004) estimates that 40 percent of the world's coffee is traded by four companies and 45 percent is processed by three coffee roasting firms, which effectively exercise control over the global coffee chain. The dynamics of the power relationships between members of the chain are depicted in Figure 9. The low share of the final sales value accruing to producers is also illustrated in Figure 10.

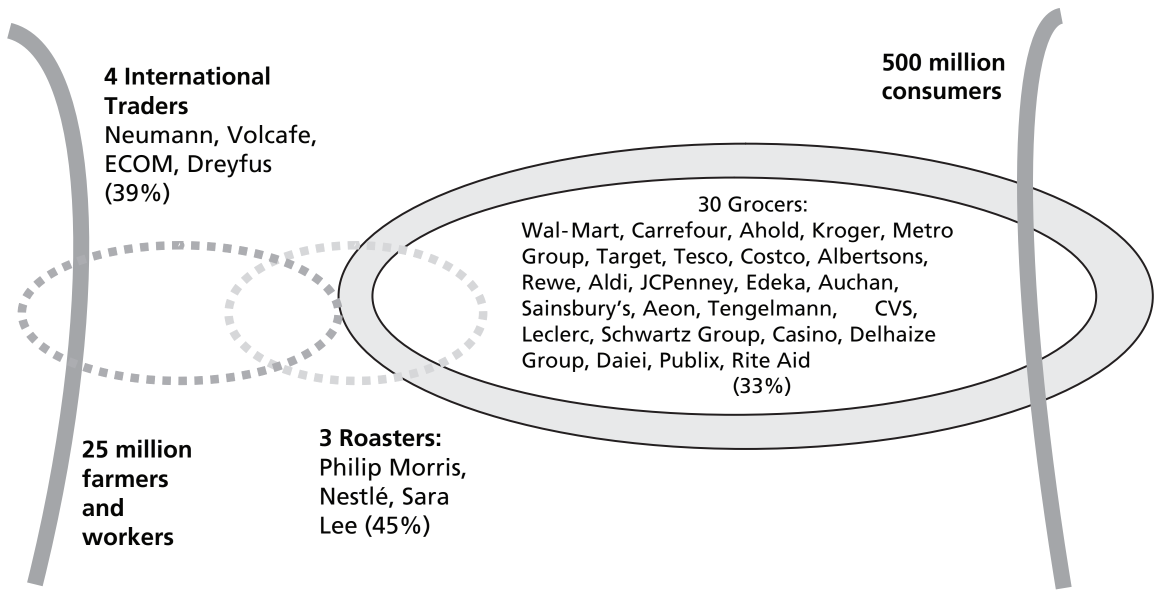
**Figure 8. Tariff escalation on coffee products in some developed countries**




Source: FAO

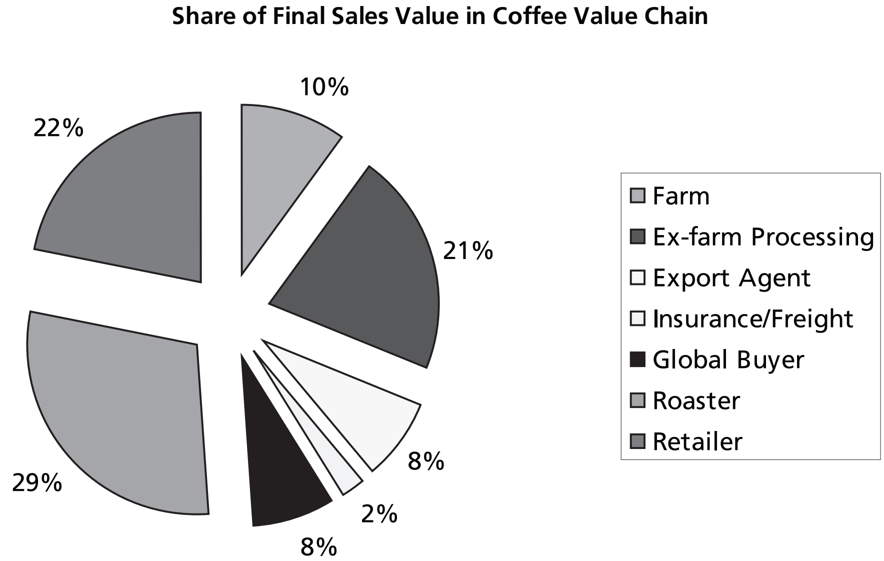
**Figure 9. Concentration of market power in the global coffee chain**

Four companies con trol almost 40 percent of global trade in coffee and only three roasters (Philip Morris, Nestlé and Sara Lee) control 45 percent of the global market.




Source: UK Food Group in FAO, 2004

**Figure 10. Share of final sales value accruing to coffee value chain actors**




Source: Africa Beverage Project in FAO, 2004

Stimulating the domestic market for coffee consumption would help to reduce dependence on exports, which are subject to the vagaries of world market prices and which are subject to tariff escalation.

## Financial

### The coffee development fund (CDF)

The CA requires marketing agents to remit levies of 1 percent and 2 percent of gross sales of all clean coffee to the CBK and the CRF respectively, within seven days of the receipt of sale proceeds (Republic of Kenya, 2002). Given the marked decline in coffee production, these percentages have proved to be insufficient in recent years. Moreover, the Kenyan coffee sector is heavily indebted and is in dire need of significant capital investments.

One of the requirements repeatedly stated by producers is the need for rural credit. In the past, the cooperative societies provided vouchers (a form of credit) that could be used to pay school fees, medical bills, buy inputs etc. Producers could expect to receive payment within a reasonable amount of time and they knew they would receive appropriate compensation based on the quality of their coffee. Today the reverse is true.

A farmer may deliver coffee beans in March and may not receive payment until September. In the meantime, the farmer has spent the little income owned, buying expensive inputs and hiring labour to grow and harvest the coffee. Left without any funds or access to credit, the farmer is also burdened with outstanding school fees, daily subsistence needs and a lack of additional inputs to grow more coffee. While diversification is being promoted to help alleviate the producer's financial situation, a more substantive solution is required.

Some producers have bought into the rural 'SACCO' (Savings and Credit Cooperative Society) structure, which brings together farmers from across the agricultural spectrum. Here producers receive loans at low interest rates and benefit from the diverse backgrounds of their counterparts. Despite this positive move, the farmers contribute little to the SACCO because of infrequent and unpredictable payments from coffee. They are therefore unable to maximize the system's full benefits.

Accordingly, the CA makes provision for the creation of the CDF, which seeks to provide sustainable and affordable credit and advances to coffee farmers for the purpose of:

- Farm development
- Farm inputs
- Farming operations
- Price stabilization

It is still too early to adequately assess the impact of the CDF. However, the GOK should ensure an appropriate and transparent mechanism for allocating the funds, ensuring equal access to rural credit for all concerned producers. To that end, the CBK, as the regulating body, should be empowered to effectively monitor the administration of the fund.

An important benefit of the CDF will be the considerable increase in production and efficiency within the sector. This is because of the fact that most of the smallholders produce below capacity, which in turns heightens the inefficiency of the factories since they also operate below capacity. The limiting factor for the producers is credit with which to purchase much needed inputs. The following table presents an overview of the production capacity for a select number of smallholders and small estate producers.

**Table 7. Comparison of current production and actual production capacity**

| Producer | Land | Members | Current production (Annual) | Actual production capacity | Shortfall |
|---|---|---|---|---|---|
| Smallholder | 10 Acres | | 15 000 kilograms | 45 000 kilograms | 30 000 kilograms |
| Cooperative Society | | 1600 farmers | 500 000 kilograms | 3 million kilograms | 2.5 million kilograms |
| Small estate owner | 5.5 Acres | | 12 000 kilograms | 20 000 kilograms | 8,000 kilos |
| Kenya | | | 50 000 tonnes | 120 000 tonnes | 70 000 tonnes |

Source: Created by Author using data collected during interviews

With adequate (and affordable) credit, producers will be empowered to produce greater quantities of coffee, which will increase the efficiency of the factors and positively impact the sector as a whole. Additionally, increasing transparency within the system and ensuring that producers receive fair compensation in a timely fashion will help to increase farmer morale and re-stimulate the Kenyan coffee sector to its pre-liberalization days of glory.

# 4. Discussion and Conclusions

Certainly, Kenya's premium quality coffee enjoys sufficient acclaim to warrant further investments in improving production and quality so as to increase the earning potential of smallholders. By implementing the recommendations made in this case study, the industry will boost its competitive advantage and thereby regain commercial viability on the world market. However, as stated, a reduced dependence on exports should be encouraged, with a concurrent focus on the domestic and regional markets. Considering the market potential within Kenya, the East African belt, as well as on the rest of the continent, the effects of the vagaries of the global market and the power exerted by the few companies that effectively control the global chain can be minimized.

Having stated this, it would be wise to further investigate the requirements for creating new markets in country and within the region. For instance, Oxfam (2002) estimates the cost of building a processing plant for soluble coffee at over US$20 million, which is a steep investment for the fragile Kenyan economy. Although roasting and grinding significantly lower the price tag, the issue of sourcing quality packaging materials and other externally sourced inputs, could also prove to be a daunting task. While multinational companies could be encouraged to set up plants in Kenya, the fact that they have chosen to operate efficient plants in the United States and Europe (as a sunk cost) might mean that their willingness to operate in Kenya could be minimal. Considering the lack of reliable infrastructure (electricity, roads, etc) and the high criminality, the cost of doing business, as well as the required efficiency might make this an unprofitable investment. As such, the government could look into how these factors might be improved in order to attract Foreign Direct Investments (FDI).

In particular, it would be useful for the government to strengthen its partnership with Starbucks coffee, one of the biggest chains that has in recent years committed to source its coffee from farmers who meet new social and environmental guidelines. In 2002 the company vouched to buy 74 percent of its green coffee at fixed, long-term prices, as a means to guarantee stability and predictability for coffee producers (Oxfam, 2004). Starbucks already buys Kenyan coffee beans, and brands it as a 'bold' high quality coffee on its website. Furthermore, other coffee companies can be lobbied so that they commit to paying producers a fair price, provide financial contributions to aid small-scale producers and use appropriate labels to distinguish coffee based on quality and origin.

Another important issue that should be addressed is building the capacity of the various coffee institutions. Owing to the high inefficiency, lack of managerial competence, nepotism, and corruption, the coffee institutions fail to provide producers with much needed support. Instead, beginning at the farmer association level and moving through to the CBK, each organ lacks the fundamentals for efficient operations.

In essence, while the industry requires economic, technical and financial interventions, it appears that the success of these actions would hinge on the effective implementation of a robust institutional framework. Without clear definitions of the roles of all the coffee institutions, and without strengthening partnerships between public and private institutions within the coffee industry, other recommendations could fall short of achieving their intended goals. This is because of the fact that a solid institutional structure would serve as a foundation upon which other aspects could be developed.

It is clear that the industry requires good coordination and regulation, a function which the CBK should be able to perform with adequate financing and improved managerial ability. This would further facilitate all other activities within the chain. For instance, a more robust CBK would be able to ensure that producers are paid in a timely manner (which would also affect their use of inputs, the quality of their produce, as well as their overall well-being).

In addition, improving collaboration between the MOA and the Ministry of Commerce would also serve to strengthen the industry. As mentioned, there is uncertainty where the roles of each ministry are concerned and inter-ministerial collaboration is limited. Therefore, seeking to implement strategies that lack the support of both parties would effectively limit their impact.

Another important area for strengthening the institutional framework lies in the establishment of a strong AO, designed to bridge the gap between producers and other actors within the industry. Bearing in mind the trilogy of improved dialogue and lobbying between the organization, the KCTA, CBK, the relationship among and between actors will become more robust, thereby ensuring that other measures that seek to address the existing shortages in the industry will accomplish their intended goals. Once this structure has been put in place, it will:

- Facilitate improvements to information access for producers,
- Improve the capacity and outreach of research
- Will facilitate efforts for differentiation
- Will help increase the outreach of extension services
- Will facilitate improvements in rural infrastructure
- Create opportunities for investigating the option of increasing value added and local consumption
- Could impact the management of the CDF

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