The Coffee Value-Addition Opportunity in Africa
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1. Executive Summary

Coffee is one of the most traded agricultural commodities globally, characterized by production in key ‘global South’ countries such as Brazil, Colombia and, more recently, Vietnam, while consumption is dominated by ‘global North’ regions in North America and Europe. The majority of value addition through processing, branding and distribution to consumers through retail and foodservice outlets occurs within consuming regions. These stages in the value chain typically take place in consumption markets.

Africa is a small but significant player in the production of coffee, with only a marginal role in more advanced stages of value addition: Africa has an 11% share of green bean production, a market worth approximately $18bn at export prices in 2009, and less than 2% share of coffee processing.

A focus on volume share alone understates Africa’s strength in the coffee market. The importance of origins in coffee, especially in the fast-growing roast and ground coffee sector, is important in the high-value end of the market. In this context, African coffees of the ‘Arabica’ variety are considered amongst the best in the world, with highest graded Kenyan and Ethiopian coffees trading for many multiples of the price of more ‘standard grade’ arabicas.

**Overview of the Coffee Value Chain and Africa’s Positioning**

We divide the coffee value chain into three sectors relevant for African policy-makers, each with different economic and competitive dynamics:

- **Green Coffee Production:** raw coffee beans are the seeds of the coffee cherry, and come in two main varieties: arabica and robusta. They differ from each other in terms of taste, the conditions under which they grow and economics. Robusta produces an inferior tasting beverage compared with higher caffeine content compared with arabica. Both types of coffee beans are often mixed together by processors; therefore countries that can cultivate both varieties can have an advantage in creating roasted and ground coffees. World producers are split into Arabica and robusta producers, with only a few scale producers such as Brazil and Uganda producing both. World production is split at 5 million tons of Arabica and 2.3 million tons of Robusta, with a combined value of $18bn in 2009. Africa produces 11% of the world’s output, a share which has been in long-term decline versus its 27% share of output in 1980, as volume growth has stagnated against growth in Brazil and the emergence of Vietnam as a major robusta producer. However, African production is well positioned with respect to the growing demand for high quality arabicas in established markets in North America and Europe, with high quality African Arabica trading at several times the value of standard arabicas from other regions.

- **Instant Coffee Production:** This sector is smaller than the total green coffee market, with the valued at $4bn in value-added in 2009 (but is worth more than $16bn at retail prices’). This is a capital intensive activity to manufacture powder or granules, and the resulting high levels of minimum efficient scale and the high levels of investment in marketing and branding of incumbents result in a few, large scale facilities largely owned by only a few major players, in particular Kraft and Nestle. Geographically, however, they can feasibly be located in coffee producing countries. For example, Nestle operates several factories for the production of instant coffee in Africa. Nevertheless, Africa has only a 2% share of global production.

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- **Roast and Ground Coffee Production**: The ground coffee manufacturing market is much larger than the instant coffee market, at $26bn of value added in 2009, and is characterized by a large number of much smaller players than the instant coffee sector. Players tend to locate in market, given the short shelf life of roast coffee (without high cost packaging to preserve freshness) and the need to mix blends that are highly customized to local tastes. African countries have 8% share of this sector, with players that serve a small local market and cater to international clients with either their own branded coffees or as contract manufacturers (known as ‘toll processors’).

**OPPORTUNITIES AND CHALLENGES FOR DEVELOPING THE AFRICAN COFFEE SECTOR**

Few producer countries have successfully managed the transition from substantial green coffee production to becoming a substantial player in processing. The exception of Brazil demonstrates both the importance of a scale domestic or regional addressable market as a springboard for developing the local supply-side of the market, and the limitations: Brazilian green coffee production accounts for 33% share of global volumes, but only 16% share of processed coffee, and the country has struggled to export more than 20% of its production overseas.

Processors in producing countries face substantial barriers in terms of accessing the breadth of varieties required to create blends that are suited to consumers’ tastes in diverse consumption markets, and the ability to penetrate key channels to market on the basis of cost or brand equity.

There are several challenges and areas of opportunity that are particularly salient in the African context, and which to a large extent dictate the priorities to be addressed in any policy agenda for driving transformational change in the coffee sector.

**MAXIMIZE THE VALUE OF GREEN COFFEE PRODUCTION THROUGH EXPANSION OF WET MILLING**

Within the green coffee market there are several quality bands, with substantial premiums paid for ‘specialty’ washed coffee. There is a strong economic case for African producers to invest in ‘specialty’ washed coffee, and sufficient market demand exists to absorb substantial increases in production.

For processing coffee through wet mills, operators must be knowledgeable in processing of coffee and in management of the coffee washing station as an enterprise in order for investments to be worthwhile. Development of these skills is a departure from the typical agricultural skill set, and can take significant time: while this capability is being developed, value can actually be lost by taking coffee through inefficient washing stations that increase costs but result in no net increase in green bean FOB prices.

**CREATE LOCAL DEMAND FOR COFFEE AND SUPPORT THE DEVELOPMENT OF A PROCESSING SECTOR TO SERVICE THIS**

Consumption of coffee traditionally competes with other hot drinks such as tea: as traditional tea drinkers, many African communities perceive coffee as a premium beverage with, in some cases, negative health connotations. However, the example of Brazil demonstrates that demand can be stimulated through effective marketing and consumer education, if the private or public sector participants are willing to invest in demand creation. The case for doing so is likely to remain relatively low for the private sector in many Sub-Saharan African countries, which are typically considered too small a commercial opportunity to be worthwhile as a standalone investment, and not attractive to create a ‘public good’ that could also be leveraged by competitors. A supply-side focus on developing products appropriate for African consumers’ budgets and broader stimulation of market demand can foster the growth of a domestic coffee industry that captures all stages of value-addition from bean to cup.

**ADDRESS THE INTERNATIONAL PROCESSED COFFEE MARKET, IN CONJUNCTION WITH MAJOR INTERNATIONAL PLAYERS**
Existing major players have the intellectual property, processing know-how and market access essential for success. It is unlikely that African players can address the mainstream processed coffee market given existing barriers; this makes international majors critical partners to develop export-oriented processing capacity.

Instant coffee production in African countries can typically be more expensive than in developed consumer markets, especially due to its high energy and water intensity in production. Production is capital intensive and requires sophisticated production environment management capabilities, which can require importing specialised capital goods and supplies of spare parts, plus specialised labour, with substantial price premiums. Finally, tariff escalation creates additional barriers for producers of processed coffee that intend to export to consumption markets. The high level of consolidation of the instant coffee market, with substantial investments in branding and established relationships with key channels to market create substantial barriers to entry from any new players based on African countries, and imply that entry or transformative growth in activity will likely require collaboration with a major multinational.

SUPPORT THE BROADER PROCESSING SECTOR WITH THE DEVELOPMENT OF AN AFRICAN COFFEE HUB

A critical challenge for processing in countries that produce green coffee is the breadth of coffee varieties and availability of efficient logistics to be able to serve consumer markets. Roasted coffees can typically involve blends of 10-15 varieties of coffees in order to create desired (and consistent) flavours and colours; toll roasters can lack access to the breadth of varieties of Robusta and Arabica required at a cost that is competitive with roasters in key importing markets, which have established supply chains for a broad variety of beans.

This is compounded by a lack of reliable logistics to enable just-in-time deliveries for key clients, which specify tight delivery windows in order to efficiently manage working capital. Roast coffee is also considered a perishable product that does not travel well, and can be vulnerable to spoilage through increased moisture during sea transportation.

Potential private sector actors aiming to develop a hub face several challenges, such as the lack of competitive financing for scale purchases of coffee, and a lack of a pool of sufficient trading talent. There is therefore a potential role for the public sector to foster the creation of a coffee trading hub.

LEVERAGE EXISTING BEST PRACTICES IN ORIGIN BRANDING AND ADDRESSING NICHEs

Several additional and complementary opportunities exist, such as the support and development of origin branding for coffees, addressing niches such as fair-trade coffees, and leveraging opportunities for coffee-based tourism (in a similar model to wine tourism) which has been shown to be successful in countries such as Costa Rica. Several countries in Africa are already making significant headway against these areas, such as the active branding of coffees from areas such as Yirgacheffe, Limu and Lekempe in Ethiopia, and the strong growth of African fair-trade coffee. There is therefore scope for substantial transfer of best practice between coffee producing countries.

IMPLICATIONS AND NEXT STEPS FOR POLICY-MAKERS

In order to develop a robust coffee value addition agenda, policy-makers need to develop country-level and regional understanding around the vertically integrated economics of production and identify the key pain points and challenges that exist both in terms of coffee processing and in driving local demand.

The experience of Brazil demonstrates that local demand creation is a critical component of any plan to drive growth in the value-addition sector of the coffee sector, especially given that the foodservice sector (cafes, hotels, restaurants) and retail sector account for a substantial share of the final value of each cup.
While Brazil’s growth into the international processed coffee market has been less impressive than its local development, African countries have scope for gaining traction at a faster rate. Comparative advantages in quality perception and the existence of players already involved in the export of processed coffee provide a strong base for carving out a key role in the export of high quality processed coffee.

In this report we aim to contribute to the extensive literature on the sector by focusing on the structure of the whole value chain, taking a view on the distribution of value across the different stages of production, the trends influencing the market, and how African policy-makers can respond to capture key sources of value addition.
2. Overview of the Coffee Value Chain

FROM COFFEE CHERRY TO THE FINAL CONSUMER PRODUCT

Coffee is a tree fruit that is initially produced in the form of a ‘coffee cherry’. Cherries are harvested from the tree, and the pulp is removed to reveal the seeds, which are initially green. At this stage, coffee is referred to as ‘green coffee’, with the characteristic brown color and aroma created by roasting the bean.

FIGURE 1: STRUCTURE OF A COFFEE CHERRY

<table>
<thead>
<tr>
<th>Structure of coffee cherry and beans:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Center cut</td>
</tr>
<tr>
<td>2: Bean (endosperm)</td>
</tr>
<tr>
<td>3: Silver skin (testa, epidermis),</td>
</tr>
<tr>
<td>4: Parchment (hull, endocarp)</td>
</tr>
<tr>
<td>5: Pectin layer</td>
</tr>
<tr>
<td>6: Pulp (mesocarp)</td>
</tr>
<tr>
<td>7: Outer skin (pericarp, exocarp)</td>
</tr>
</tbody>
</table>

While there are several different coffee species, two main species of coffee are cultivated today: *Coffea Arabica*, known as Arabica coffee, and *Coffea Canephora*, known as Robusta coffee. They differ from each other in terms of taste, the conditions under which they grow and economics. While Robusta coffee beans are more robust than the Arabica plants, they produce an inferior tasting beverage with higher caffeine content. Both types of coffee beans are often mixed together by processors; therefore countries that can cultivate both varieties can have an advantage in creating roasted and ground coffees. The presence of significant quantities of Robusta benefits countries that produce lower cost instant coffees.
FIGURE 2: THE COFFEE VALUE CHAIN

PICKING AND POST-HARVEST PROCESSING

Coffee cherries are picked and then typically undergo some post-harvest processing to convert the raw fruit of the coffee plant into ‘green coffee’. The cherry has the fruit or pulp removed leaving the seed or bean, which is then further processed. While all green coffee is processed, the processing method varies and can have a significant effect on the flavor of roasted and brewed coffee. Production of green coffee involves several steps:

- **Picking**: A coffee plant usually starts to produce flowers 3–4 years after it is planted, and it is from these flowers that the fruits of the plant (commonly known as coffee cherries) appear. The cherries ripen by changing color from green to red, and it is at this time that they are harvested. Coffee is either ‘strip picked’ (i.e., the entire crop is harvested at one time) or ‘selectively picked’ where only the ripe cherries are picked, which is more time intensive and therefore tends only to be used for fine Arabica beans.

- **Wet Processing**: After harvesting, the coffee cherries are sorted by immersion in water. The skin and pulp of the resulting ripe cherries are removed by pressing the fruit in water. The beans are then fermented in water, and a thin layer or ‘parchment’ of pulp remains. The coffee is then dried to approximately 10% water content. This coffee is called ‘wet processed’ or ‘washed’ coffee.

- **Dry Processing**: In this alternative process, the entire cherry is cleaned and then left in the sun to dry, then sent to a mill for hulling, sorting, grading and bagging. Coffee produced in this manner is called ‘unwashed’ or ‘dry’ coffee. The dry method is used for about 95% of the Arabica coffee produced in Brazil, most of the coffees produced in Ethiopia, Haiti and Paraguay, as well as for some Arabicas produced in India and Ecuador. Almost all Robustas are processed by this method. It is not practical in
very rainy regions, where the humidity of the atmosphere is too high or where it rains frequently during harvesting.

- **Milling, hulling, polishing, cleaning & sorting**: The remaining parchment or dried pulp (depending on the processing methodology) is removed, and beans may then be polished to remove any remaining tissue residue. The beans are then sorted by size, density and color. This also removes any non-coffee content such as sticks and small stones.

- **Grading**: Coffee is categorized on factors that may include size, origin, altitude at which it was grown, how it was picked and processed, and taste. There is a substantial and complex range of taste criteria that are assessed by tasting a batch of coffee, a process known as ‘cupping.’

- **Storage**: Green coffee is fairly stable (approx. life of 1 year) if stored correctly. Most often it is in a jute sack kept in a cool, clean, and dry place.

**PROCESSING**

There are two main types of processed coffee:

- **Roast (and ground) Coffee**: Roasting brings out the flavour components of the green bean, and is a sophisticated and highly skilled processing activity. Beans are typically mixed across a range of origins to create a flavour that fits consumer preferences, which often vary substantially across countries. Beans are then ground and packaged for transport. Roasted coffee is a perishable product that typically lasts 5 to 6 days before it becomes stale. However, appropriate packaging can increase the shelf life of coffee to approximately 1 year.

- **Instant or Soluble Coffee**: As with roast and ground coffee, green coffee is first roasted to bring out flavor and aroma. The beans are then ground finely and dissolved in water. Water is then added under carefully controlled temperatures to concentrate the coffee solution before it is then freeze dried (to create granules) or spray dried (to create powder). African instant coffee manufacturers such as TANICA tend to focus on the manufacture of spray dried coffee, as it is a cheaper process, but consumers consider it to be a lower-quality product.

Roast and ground coffee is a substantially larger market than instant coffee, with the former valued at $26bn for roast and ground coffee versus $4bn a year for instant coffee.

**THE STRUCTURE OF THE COFFEE INDUSTRY**

There are 25 million coffee producers in more than 60 countries\(^2\) who supply coffee to thousands of roasters. The roasters then supply the coffee to hundreds of millions of consumers\(^3\) through several hundred retailers.

Market power mostly resides with the roasters and retailers who are gatekeepers between tens of millions of producers and hundreds of millions of consumers. In instant coffee production, power resides within a few large companies, with Nestle and Kraft Foods together counting for more than 75% of the instant coffee market\(^4\) which is 27% of overall coffee consumed worldwide. A key source of their market power is branding, which forms significant barriers to entry for new players. For prospective new processors facing such high barriers to entry, alternative plays such as creating niches or cultivating new customers in emerging markets offers a less contested market with potentially lower upfront branding investment required to gain traction.

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\(^2\) Tropical Commodity Coalition [www.teacoffeecocoa.org](http://www.teacoffeecocoa.org), March 2010

\(^3\) There are 150 million consumers of coffee in the USA alone

Roast and ground coffee is less concentrated, with thousands of roasters that are typically located in consumption markets, although some origin roasters (roasters that produce processed coffee in a country that produces green coffee) exist in markets such as Brazil and Kenya.

Governments in countries that produce green coffee have made attempts to enhance their market power by:

1) Aggregating their in-country supply and forcing exports through co-operatives or a few licensed agents (e.g., Kenya)

2) Branding their coffee origins and licensing roasters who use those origin names in retailing to consumers (e.g., Ethiopia) and

3) Agreeing on export quotas, either enforced by both producing and consuming countries as in the pre-1989 coffee agreement or by producing countries alone through initiatives such as the Association of Coffee Producing Countries.

However, all attempts by producer countries to influence coffee prices through quotas and cartels have failed to date. Restrictions on direct exports from farmers have also resulted in high rents going to middle men and not to farmers, discouraging coffee production and on-farm investments. As a result, producer countries tend to be confined to the raw production of green coffee, estimated to be an $18bn market at export prices in 2009, while taking a relatively low share of the processing opportunity. The case of African countries is typical: as a region, African producers account for 11% of total green coffee production by volume, but only 8% of roasted coffee and 2% of instant coffee production in 2009.

**FIGURE 3: Africa’s Share of the Coffee Market: Green Coffee, Roast & Ground and Instant Coffee**

<table>
<thead>
<tr>
<th>Coffee Type</th>
<th>Production Volume</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Coffee</td>
<td>7.2 mT (11%)</td>
<td>$18bn</td>
</tr>
<tr>
<td>Roast &amp; Ground Coffee</td>
<td>4.2 mT (8%)</td>
<td>$26bn</td>
</tr>
<tr>
<td>Instant Coffee</td>
<td>0.7 mT (2%)</td>
<td>$4bn</td>
</tr>
</tbody>
</table>

Countries that are engaged in green coffee production tend to earn 15% of the final value of instant coffee and 25% to 30% of the final value of roast and ground coffee. The difference in share of final value is determined by the type of beans used, and the level of cost used in processing: instant coffees tend to use a high proportion of

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5 Africa share of Instant Coffee appears as nil due to rounding. Production volumes are estimated at 0.01mT and value addition is estimated at $0.08m in 2009.
cheaper Robusta beans, and use high cost processing methods to transform them, while roast and ground products use a higher proportion of Arabica products.

FIGURE 4: VALUE CAPTURED AT EACH STAGE OF THE ROBUSTA AND ARABICA VALUE CHAINS

<table>
<thead>
<tr>
<th></th>
<th>Instant Coffee</th>
<th></th>
<th></th>
<th>Roast and Ground Coffee</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cost ($/kg)</td>
<td>Margin ($/kg)</td>
<td>TOTAL ($/kg)</td>
<td>Share of Total (%)</td>
<td>Cost ($/kg)</td>
<td>Margin ($/kg)</td>
</tr>
<tr>
<td><strong>Green Coffee Production</strong></td>
<td>1.40</td>
<td>0.53</td>
<td>1.93</td>
<td>15%</td>
<td>3.06</td>
<td>1.05</td>
</tr>
<tr>
<td>Farming</td>
<td>1.06</td>
<td>0.40</td>
<td>1.46</td>
<td>11%</td>
<td>2.15</td>
<td>0.64</td>
</tr>
<tr>
<td>Aggregation</td>
<td>0.14</td>
<td>0.08</td>
<td>0.22</td>
<td>2%</td>
<td>0.66</td>
<td>0.21</td>
</tr>
<tr>
<td>Dry Milling</td>
<td>0.20</td>
<td>0.05</td>
<td>0.25</td>
<td>2%</td>
<td>0.25</td>
<td>0.20</td>
</tr>
<tr>
<td><strong>Trading</strong></td>
<td>0.53</td>
<td>0.22</td>
<td>0.75</td>
<td>6%</td>
<td>0.30</td>
<td>0.37</td>
</tr>
<tr>
<td>Exporting</td>
<td>0.32</td>
<td>0.05</td>
<td>0.37</td>
<td>3%</td>
<td>0.15</td>
<td>0.19</td>
</tr>
<tr>
<td>Taxes</td>
<td>0.12</td>
<td>0.12</td>
<td></td>
<td>1%</td>
<td>0.12</td>
<td>0.12</td>
</tr>
<tr>
<td>Importing</td>
<td>0.21</td>
<td>0.05</td>
<td>0.26</td>
<td>2%</td>
<td>0.15</td>
<td>0.06</td>
</tr>
<tr>
<td><strong>Processing &amp; Branding</strong></td>
<td>5.08</td>
<td>1.15</td>
<td>6.23</td>
<td>48%</td>
<td>4.17</td>
<td>2.05</td>
</tr>
<tr>
<td>Processing</td>
<td>3.00</td>
<td>0.15</td>
<td>3.15</td>
<td>24%</td>
<td>2.31</td>
<td>0.69</td>
</tr>
<tr>
<td>Marketing &amp; Dist</td>
<td>2.08</td>
<td>1.00</td>
<td>3.08</td>
<td>24%</td>
<td>1.86</td>
<td>1.36</td>
</tr>
<tr>
<td><strong>Retailing</strong></td>
<td>2.84</td>
<td>1.22</td>
<td>4.06</td>
<td>31%</td>
<td>2.84</td>
<td>1.22</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>9.85</td>
<td>3.12</td>
<td>12.97</td>
<td>100%</td>
<td>10.37</td>
<td>4.69</td>
</tr>
</tbody>
</table>

Source: Intracen, Technoserve, ICO, Dalberg analysis

To capture a larger share of the value of their production, countries that are largely focused on Robusta production, such as Cote d’Ivoire and to a lesser extent Uganda, could shift to processing. While Arabica producers also stand to gain from a shift to processing, there are additional opportunities to grow their share of value capture by focusing on increasing the value of green beans used in processing.

Instant coffee manufacturers are forced by the high capital costs and high level of minimum efficient scale of the sector to have a few, large scale production facilities; geographically, however, they can feasibly be located in coffee producing countries. For example, Nestle operates several factories for the production of instant coffee in Africa (see Figure 5 below).

Conversely, ground coffee manufacturers can operate at lower scale efficiently (although profitability is highly dependent on the level of green coffee prices), are less consolidated than the instant coffee manufacturing sector and tend to locate in consumption markets rather than coffee production regions. This is largely driven by two factors: transporting roast and ground coffee, which is considered a spoilable product with short shelf life (unless high investments in packaging are made) is challenging; roasters also need to cater to local taste preferences, which tend to vary significantly across countries. Therefore any benefits in accessing local green coffee at lower prices can quickly be offset by the costs of importing other green coffee from other regions in order to meet consumers’ taste preferences. However, there are several Africa-based players in roast and ground coffee production, such as Dormans in Kenya (see below), that serve both their domestic and international export markets, demonstrating that Africa-based players can successfully compete under current market conditions in the international market, albeit at a small scale.
Major Multinational Player Producing Instant Coffee in Africa: Nestlé

Nestlé is the largest nutrition and food company in the world, with a turnover of $100bn in 2010, $18bn of which came from powdered and liquid beverages including coffee, tea and cocoa⁶. Nestlé controls 21.6% of world market for instant coffee⁷, with the nearest competitor, Kraft Foods, accounting for 13.6 % market share.

Nestle purchases 780,000 tons of coffee annually⁶, accounting for 10% of the global supply of green beans. 90,000 tons is sourced directly from farmers, however, the majority of procurement is via traders. The company operates 26 coffee factories around the world, including an instant coffee production facility located in Cote d’Ivoire.

Most recently, Nestlé has been focusing on hedging the volatility in its green coffee supply chain by investing in coffee production (including research in new coffee varieties) and more responsible sourcing initiatives with a particular focus on increasing direct sourcing from farmers, and opening new factories in key producing countries with close proximity to main markets such as Mexico and in new and emerging markets such as Dubai.

African Branded Roast & Ground Coffee Manufacturer: Dormans

Dormans is a green coffee trading company based on Kenya that focuses on the export of coffee from the East African region, participating in both the Nairobi and Dar es Salaam green coffee auctions. Dormans also performs activities in roasting, with a factory based in Nairobi that produces branded roast and ground coffees, as well as coffee equipment and accessories. Dormans also has a branded instant coffee, produced locally.

While a key player in the East African region, Dormans remains a relatively small player in the global context, with an export volume of approximately 15,000 tons of green coffee, and roasting of only 900 tons for distribution to the local and Middle East markets. These small volumes are in part a response to the local market: the Kenyan market is weighted towards tea, rather than coffee, consumption. Partly in response to this and as a strategy of diversification and brand development, Dormans also operates a chain of 11 coffee shops in high footfall, prime pitch locations.

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⁶ Nestle 2010 Financial Statements
⁸ http://www.nestle.com/Media/NewsAndFeatures/Pages/nescafe_plan.aspx
3. The International Coffee Market

**GREEN COFFEE**

Since the 20th century, the key coffee producing areas have remained largely Brazil, Colombia, Central America and Africa, with Vietnam entering as a major producer from early 1990’s. World production has increased at an annual compound rate of 1.9% over 2005-09, led by strong increases in the top two producing countries of Brazil and Vietnam.

World producers of coffee are split into two main categories: Arabica producers and Robusta producers, with only a few scale producers such as Brazil and Uganda producing both. World production is split at 5 million tons of Arabica and 2.3 million tons of Robusta. Arabica is mostly used for roast & ground coffee and Robusta largely goes into instant coffee production and into blends with roasted coffee, especially to provide a caffeine ‘kick’ in espresso roasts.

Africa is a significant origin for the world’s coffee beans, producing 11% of the world’s output. However, Africa’s share of the world’s production has consistently declined over time, moving from 27% of world output in 1980 to 18% in 1990 and to 11% of the world’s coffee output currently. Amongst the world’s top 5 producers, Africa is the region that has declined the most in coffee bean output from 1980 to present.

**FIGURE 6: GLOBAL GREEN COFFEE PRODUCTION, 1980-2009**

![Graph showing global green coffee production, 1980-2009.](image)

**SOURCE(S):** ICCO; FAOSTAT; Dalberg analysis

From a production perspective, there are three distinct periods from 1980 to date:

- **1980-1989 (Quota System):** During this period coffee exports were governed by the International Coffee Agreement that implemented export quotas from producing countries. The quotas were agreed amongst the International Coffee Organization members and enforced by the importing countries. Green coffee prices
remained at about twice the current levels in real terms as the quotas restricted supply whenever prices dropped.

- **1989-1992 (Transition):** The International Coffee Agreement effectively broke down starting in 1989 and enforcement of export quotas ceased. This sent coffee prices on a downward spiral as producing countries ramped up exports and the markets struggled to find a balance between supply and demand. Real coffee prices declined by 49% over the subsequent three years and have not yet recovered to their pre-1989 levels. African production declined by 35% from 1.2 million tons in 1989 to 774,000 tons in 1992, as producers reacted to falling prices by reducing investment in production or exiting the sector.

- **1992-present (Free Market with Vietnam):** World coffee output rose by 23% as Vietnam emerged as a major producer, based on a deliberate public-sector supported move to enter the sector and focus on the cultivation of Robusta. Vietnam alone contributed 70% of the world increase in coffee production over this time period. Africa failed to expand production significantly over the period, leading to a decline in its share of global production. Increased production in countries like Ethiopia and Uganda has been offset by decreasing production in countries like [Kenya][1]. Real coffee prices have also fluctuated around the new levels set in 1992, which appear to offer insufficient incentives for farmers to increase coffee production through either improved agronomy or acreage. In addition to a lack of active husbandry and agricultural inputs, yields in African countries are starting to experience growing pressures from an ageing of the stock of trees and from competition for land from other crops and from non-Agricultural uses such as real estate in Central Kenya.

There are three main types of countries in the coffee trade: producer, “hub” or re-exporter and consumer. Most of the coffee flows directly from producers to consuming countries; however, a significant share (27 % of world production) flows through hubs before reaching their final destination. Brazil and Vietnam dominate the production of world coffee beans, with the two countries making up 47% of total world production over the period 2006-09. The European Community dominates the hub or re-exporter segment of the global supply chain, accounting for two-thirds of global re-exports. Within the European Community itself, Germany accounts for most of re-exports at 35% of EC total. There are three main types of re-exporters or hubs:

- countries that leverage huge consumption volumes to enter the re-export trade at low marginal costs (selected Western European countries, US);

- countries that are natural logistics hubs such as Germany; and

- countries that leverage commodity trading expertise as a key activity (e.g., Singapore).
There are three main coffee consuming regions: Europe, Brazil and the USA. The European Community and the US are traditional coffee consuming regions and still account for 58% of world consumption. Brazil is the only producing country that is also a significant consumer on a world scale: it accounts for 16% of world consumption which is equivalent to about half of its own production.

Africa’s share of world coffee consumption is at a minimal 4%, meaning African producers for the moment have to find markets beyond the local region for the majority of production. It is also implies that coffee processing at scale may have to be geared more towards international exports rather than towards the African markets in the immediate term.

**COFFEE PROCESSING**

As described previously, green coffee beans are processed in two main ways: roasting and packaging (either as whole roast beans or ground roast) or roasting followed by freeze or spray drying to produce soluble coffee.

**FIGURE 8: REGIONAL BREAKDOWN OF GLOBAL COFFEE PROCESSING VOLUMES, 2009**

Roasting is largely conducted close to the final consumption market, largely due to the fact that, while green coffee can be stored for several years under the right heat and humidity conditions, roast coffee is considered a perishable product. Customer demands for flexible and just-in-time deliveries favor processing close to key clients. In addition, coffee palates are considered by some roasters and traders to vary substantially across countries, with, for example, an acceptable coffee roast in the UK not matching consumer preferences in the US, which requires mixing origins and variations in the roasting process.
COFFEE CONSUMPTION

World coffee consumption has grown at annual rate of 1.4% from 1980 to 2008, and is dominated by the EU and US, which accounted for 38% and 20% of world consumption over the 2006-08 period respectively; these markets constitute mature, high per capita consumption markets, with growth rates of only 0.8% for the EU and 0.7% for the US over the period 1980 to 2008.

Growth in the coffee market is driven largely by an increase in prices as consumers trade up to specialty coffees, single origin coffees and coffees that are certified as either fair trade, organic or sustainable, as well as innovations in home coffee production systems that tie consumers into purchasing particular packages in order to create a similar experience to coffee purchased in foodservice outlets in the home. These markets therefore constitute growth markets for producers of premium coffees, including single origin roasts and specialty washed coffees, despite their overall low growth in volumes.

FIGURE 9: WORLD GREEN COFFEE CONSUMPTION BY REGION, 1980-2008

Brazil is a key growth market that has achieved 3.1% growth in consumption per annum over the 1980-2008 period to become one of the leading single country markets globally, accounting for 16% of global consumption over the 2006-9 period. This has been partly the result of rising per capita incomes leading to a lift in discretionary consumption on categories such as hot beverages, but also a result of active promotion of the sector to consumers, including a focus on the potential health benefits of coffee. Consumption is largely addressed by local producers, however, making this growth market less attractive for green coffee producers seeking export markets.
The pattern of consumption in terms of roast versus ground coffee is also shifting. Roast and ground coffees are still the dominant sector overall, accounting for 73% of consumption in 2004, but the strongest growth has been in instant coffee, which has made faster headway into new markets in areas such as Asia and Eastern Europe. At the global level, therefore, there is significant growth potential for producers of Robusta and cheaper grades of Arabica to service this growth.

Over a 100 year time horizon, coffee production and consumption have grown by approximately 2% per year, and the outlook is for this to continue, but with the balance of consumption growth shifting away from mature markets in aggregate – although specialty (i.e. washed Arabica) coffees are expected to lead consumption by 5-10% per annum - and towards key growth markets such as Brazil and Eastern Europe.

**Prices**

From 1980 to date, green coffee prices have declined significantly in real terms, with Arabica prices falling by 65% and Robusta by 81%. A significant part of the collapse in real coffee prices was the collapse of the quota system of coffee exports in 1989, as well the ramp-up of Vietnamese and Brazilian coffee exports from 1990 to date.

The fall in coffee prices was accelerated by the 1989 collapse of the International Coffee Agreement that enforced producer export quotas. Between 1989 and 1992, real coffee prices fell by 49%, and prices have not since recovered to the 1989 level.

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9 Nestle 2005
10 Presentation at 2009 US-Africa Business Summit by Technoserve
11 Ibid.
Since 1990, modest increases in world consumption have been followed closely by increases in production, leaving real coffee prices mostly unchanged over the medium term. There has been, however, continuing year-to-year volatility which is caused by short term concerns around availability of supply (e.g. spikes in years such as 1986 were partly caused by concerns over the impact of frost on the Brazilian harvest) and speculative trading strategies, as the high liquidity of the coffee market encourages technical traders to also trade in the commodity.

**FIGURE 11: EVOLUTION OF GLOBAL GREEN COFFEE PRICES IN REAL TERMS SINCE 1980**

Although the price of green coffee is a major input into the cost of processed coffee production, processed coffee prices display substantially less volatility versus the raw commodity. Since 1990, real prices for roasted coffee at the retail level, and prices for commodity coffee at the global level have both declined, but the margins between the retail and commodity prices has remained fairly constant.
4. The African Market

The Structure of the African Market

Coffee production in Africa is largely a smallholder activity, with over 90% of coffee bean production conducted on farms of less than 1 ha. Africa produces both Arabica and Robusta varieties, with a slight skew towards Arabica constituting 57% of total production in 2009. Arabica production is largely dominated by East African countries, given the availability of land at suitable altitude; Ethiopia, Tanzania, Uganda and Kenya account for more than 80% of total production. Robusta is produced by 13 African countries, with the top two producers (Uganda and Côte d’Ivoire) representing 70% of output in 2009.

FIGURE 12: SUB-SAHARAN AFRICA GREEN COFFEE PRODUCTION BY VARIETY AND COUNTRY, 2009, ‘000 TONS

Overall, however, the typical model for the coffee industry is highly managed: coffee boards exist in most major producers and are typically responsible for coordinating inputs, agricultural extension, processing and exports. Coffee authorities such as the Kenya Coffee Board, Uganda Coffee Development Authority, Ethiopian Fine Coffees Stakeholders Committee amongst others have broad ranging remits that lead to a highly managed coffee sector that aims to coordinate production and marketing activity to maximize the value of coffee production for the overall economy in terms of price realization and volume of production, and to manage the level of price volatility experienced by farmers.

The majority of final output in the region is traded by major international and regional trading houses such as Volcafe, Dormans, Socfinac and Schluters.

Beyond coffee production, Africa does not have a substantial domestic processing industry: African processing of roast and ground coffee is 8% of global total while its production of instant coffee is at 2% of global total, almost all of it done at the Nescafe plant in Abidjan, Cote d’Ivoire and a marginal amount from TANICA, in Tanzania. Given the low level of coffee consumption in Africa, this level of processing activity appears to be of the appropriate scale.
for the domestic market: African consumption is 4% of the global total, with the majority of this concentrated in Ethiopia.

**RECENT PERFORMANCE**

Total African coffee production has grown by 1.5% per year over the period 2005-09 with growth in volumes largely driven by Ethiopia and Uganda. Some producers such as Tanzania have sharply decreased production (-3% CAGR over the same period) whereas countries such as Kenya have stagnated and have projected decreases in production due to ageing of the stock of coffee trees, low yields and farmers either neglecting or uprooting coffee as they switch focus to other crops with higher returns.

**FIGURE 13: RECENT GREEN COFFEE PRODUCTION GROWTH IN SUB-SAHARAN AFRICA, BY COFFEE VARIETY, ’000 TONS, 2005-2009**

The demand-side of the African market has been stagnant over the 2005-09 period, with an average annual growth rate of 0.17%. This is the slowest growth rate in consumption for any region in the world, except for the European Community where consumption has been in decline; over a longer time horizon, Africa is distinguished as the consistently lowest growth region, with an average rate of growth of 0.3% per year since 1980. Coffee growers consider coffee too valuable to drink, while the overall hot beverage culture remains tilted towards tea. Ethiopia is a marked counter-example, with a strong traditional coffee culture that provides underlying demand and incentives for farmers to increase production. South Africa, Algeria, Sudan and Morocco are also key consumption markets in the wider region. Total African consumption was 405m kilos green coffee equivalent in 2009, 90% of which was consumed as roast & ground coffee and the rest as instant coffee.
Within the context of Africa, the countries of focus in the Africa Transformation report characterize the situation for much of Sub-Saharan Africa: the countries account for the majority of African production volumes, but a minority of consumption. In particular, Uganda and Ethiopia are leading producers and drive much of the increase in African production over the period 2005-09. Only Ethiopia constitutes a substantial consumption market for coffee, with 193,000 tons of consumption in 2009.

Within the 15 countries of focus in the Africa Transformation Report, there are three main groups:

- **Scale coffee producers**: Ethiopia and Uganda both produce over 100,000 tons of coffee per year, and with substantial growth rates of 5.7% and 8.6% per year, respectively, they are diverging from the remaining ACET focus countries in terms of the scale of their primary production sectors.

- **Small / niche producers**: This characterizes the remaining producers, the largest of which are Cameroon for Robusta production and Kenya and Tanzania for Arabica, and a tail of smaller producers such as Rwanda, Ghana, Zambia and Nigeria. These producers generally have stagnating or contracting volumes, and face either key challenges in determining whether to focus on scaling the sector or shift attention to other priorities.

- **Consumer countries**: These countries do not produce coffee, but do consume it. Only South Africa consumes a material volume, at 23,000 tons in 2009, with the remaining countries of Botswana, Burkina Faso, Mauritius, Mozambique and Senegal averaging less than 2 tons per country per year. Given the generally small scale of their domestic markets, and the lack of local coffee production, coffee would not appear to be a priority agro-processing sector.

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**FIGURE 15: OVERVIEW OF COFFEE PRODUCTION AND CONSUMPTION IN COUNTRIES IN THE AFRICA TRANSFORMATION REPORT, 2005-09**

<table>
<thead>
<tr>
<th>Country</th>
<th>Production ('000 mT)</th>
<th>Consumption ('000 mT)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>'05</td>
<td>'09</td>
</tr>
<tr>
<td><strong>TOTAL Focus Countries</strong></td>
<td>537</td>
<td>602</td>
</tr>
<tr>
<td>Botswana</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

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12 Focus Countries are the 15 Sub-Saharan African countries that are featured in the Africa Transformation Report.
Below we provide a high-level review of a cross section of countries that provide examples of Robusta production, Arabica production and mixed production, and that also demonstrate different levels of domestic processing.

**High Quality Arabica Producer: Kenya**
The Kenyan coffee economy constitutes 2.8% of all commodity exports and 0.4% of Kenya’s GDP. Production is focused on high-quality Arabica, 90% of which is wet processed; as a result, Kenyan coffee has a reputation as a very high quality origin, earning a material premium over the New York “C”. Although there is some small-scale processing by Dormans and Java House, Kenya is largely a producer of green coffee for export.

The coffee sector was until 2005 heavily regulated, with producers having to sell through cooperatives and through the Kenyan auction. The market was liberalized in 2005, allowing producers to sell directly to buyers. However, producers still have to go through a licensed marketing agent, of which there are only 8 currently.

Overall, there has been a recent decline in the Kenyan coffee sector. Production has contracted materially, from 84,000 tons in 1990 to 34,000 tons in 2009. Earnings from coffee have also declined from $194m in 1990 to $127m in 2009, against an increase in real coffee prices of 10% between 1990 and 2009. Nominal prices mask the scale of the contraction in the coffee sector as a contributor to Kenya’s export earnings: in real terms, there has been a decline from $319m (2009 dollars) in 1990 to $127m in 2009.

The contraction in production has been driven by a combination of declining yield and a reduction in the total area dedicated to coffee cultivation. The Kenyan tree stock is on average 48 years old, while productivity typically declines after 30 years. Depleted soil fertility, largely caused by the high and repeated use of fertilizers leading to acidification of soil, and erosion on steep slopes leading to reduction in topsoil has also been a significant contributor to yield declines. Farmers have also responded to economic incentives, neglecting coffee due to low

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13 Based on using the US consumer price index
and uncertain returns. In some cases, farmers have substituted towards higher return crops such as French beans and tomatoes, or have exited agriculture altogether and sold land for real estate development.

**ARABICA AND ROBUSTA PRODUCER: UGANDA**

Uganda produces both Arabica and Robusta coffee, with Robusta coffees forming 65% of all exports by volume. Coffee is a significant part of Ugandan exports, contributing 10% of all exports by value (US $279 million in 2009) and 1.8% of GDP. In contrast with Kenya, coffee is a growth export sector: the production of both Arabica and Robusta has been increasing by compound annual rate of 8% over 2005-09, to reach 180,000 tons by 2009.

From a production standpoint, Uganda is a relative success story of both an increase in production and diversification of the crop; however, there is little value added activity in the coffee sector in Uganda, and relatively insignificant consumption.

**ROBUSTA PRODUCER: COTE D’IVOIRE**

Cote d’Ivoire coffee production is solely Robusta, and is the second largest African Robusta producer after Uganda. Cote d’Ivoirian production has been declining at annual compound rate of 1.5% from 2005-09, with challenges both in terms of yield (such as an ageing stock of trees, depleted soil fertility and a lack of access to agricultural inputs or finance to fund their purchase) and competition for land from other crops. Unrest in 2010-11 has led to a dramatic contraction in production, with total 2011 production expected to be only a third of 2010 levels.

Cote d’Ivoire has significant soluble coffee production and exports (of 21,000 tons in 2009), through the Nestle site in Abidjan. However, Cote d’Ivoire lacks a material domestic coffee processing sector. The combination of Robusta-oriented production that is best used in instant coffee manufacturing, and the lack of domestic processing facilities, leads to challenging prospects for Cote d’Ivoire to develop local processing, unless a combination of knowledge transfer and substantial support – in particular access to finance – is provided to potential domestic entrants.

Although short-term challenges to the section due to unrest – such as the nationalisation of businesses in the coffee sector and the shut down of the Nestlé factory – are expected to be reversed quickly, long term prospects for the coffee sector are uncertain. Drivers of long-run contraction in production through the lack of replacement of old trees and a shift towards cultivation of other cash crops are expected to continue to impact overall production moving forward.

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14 99,400 bags of coffee were produced in February 2010, versus 38,867 in February 2011
5. The Value Capture Opportunity

**KEY OPPORTUNITIES TO CAPTURE VALUE FOR AFRICAN COUNTRIES**

In agro-processing, countries that produce and export the base commodity are not typically at a substantial advantage for value added processing by virtue of their local production capability alone. In this respect, coffee is a fairly typical case, although some opportunities for value capture may exist at various stages along the value chain.

**INCREASING THE VALUE OF GREEN COFFEE**
The issue of increasing the value of green coffee production in African countries has received a great deal of attention, with initiatives in place in various countries. These programs typically focus on increasing volume and increasing value.

**Increasing Volume**
Increasing volume is primarily achieved through an increase in yields, based on increased use of agricultural inputs (fertilizer, pesticides and fungicides), planting of hybrid trees and improved husbandry. In some countries, this could lead to a 2.5x increase in production from the same planted area.

However, there needs to be capacity on the global market to absorb these additional volumes. Demand is expected to match historical growth of more than 2% per year from 1990-201015; demand for coffee is expected to reach 9.6m tons by 2020. The two largest producers of coffee (Brazil and Vietnam) have not exhausted their productive potential; however, they have made significant progress towards maximizing this potential, either in terms of land cultivated or yields. Estimates based on current versus potential productive land area and yields show that Brazil’s potential is estimated additional 630,000 tons16 while Vietnam’s potential is additional 340,000 tons17. If Brazil and Vietnam reached their estimated potential, the rest of the producing countries would still have 4.6 million tons to meet demand by 2020, and if Africa is to maintain its current share of that production (outside of Brazil and Vietnam), it would need to increase production by 52% to 1.7 million tons.

**Exploiting High Value Niche Markets**
At the same time as focusing on meeting the emerging supply gap, initiatives also attempt to focus on increasing the value of African production by exploiting high value specialty markets. In particular, processing coffee through efficient wet mills to produce specialty coffee is a key lever to maximise the value of African Arabica production: more than 50% of current Arabica coffee output is sold as “natural” parchment, without being taken through the washing process. There is a 40% premium FOB for washed coffee, whereas efficient washing (using Tanzania as benchmark) adds 25% in costs, leaving a 15% margin. Washing coffee also makes it possible to classify coffee beans as “specialty single origin”, and therefore easier to brand or promote, even at the commodity level. Initial investment in a coffee washing station is an estimated US $15,000 to wash 40 tons of green coffee output. To fully wash 50% of Africa’s Arabica production (225,000 tons of Arabica), investment required would be US $93 million, which is equivalent to 12% of current African Arabica coffee revenues in one year. The overall market for specialty

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15 Economist Intelligence Unit, 2010
16 Dalberg Analysis based on data from on ABIC (Association of Brazilian Coffee Companies) and Salvadorian Coffee Council. This estimate assumes land area under cultivation will remain mostly unchanged as it has since 2002, and increases in yield will be driven by increasing the number of trees per ha from current 2,665 trees per ha to potential 3,333 trees per ha
17 Dalberg Analysis based on data from USDA 2010 Vietnam Coffee Annual and 2004 World Bank Report on Vietnamese Coffee Sector. The estimate assumes land area will increase at current level of 2,000 ha per yr and yields of coffee can increase from current 2.1 tons to 2.5 tons per ha achieved by high-input farms
coffee is estimated to be growing faster than the overall market, at approximately 7.5% per annum over the period 1992-2008\(^\text{18}\), and appears to be capable of absorbing the scale of increase in washed coffee that this would imply.

Several other high-value niches exist, such as certified fair-trade and organic coffee beans, and single origin or origin-branded beans (as per specialty coffees in East Africa and Colombia). However, the scale of the opportunity for many of these initiatives needs to be carefully assessed, especially given the low penetration of fair trade coffee (at less than 10% of consumption in green bean equivalent) after several decades of promotion.

*Creation of a “Coffee Hub”*

Several ‘natural’ hubs exist for the trading of coffee, with entry into the sector generally either driven by leveraging high existing consumption, which creates the requirement to hedge price risk or by leveraging existing commodity trading expertise – with some locations combining both capabilities.

The ability to source multiple origins of bean enable roasters to match clients’ required taste profiles and recipes, and are essential to be able to service mainstream players that will typically include more than 10 origins in a single roast. Hubs are therefore able to facilitate the development of intermediate processing by providing advantageous access to low cost beans, which can to some extent offset any disadvantage from the lack of a proximate consumption market.

While African countries do not have the factors that make it a ‘natural hub’, there may nevertheless be a case for supporting the development of an aggregation hub of multiple origins of coffees in the region as a precursor or complementary support to the development of an intermediate processing sector. Within East Africa, as an example, logical locations exist in Mombasa and Dar es Salaam.

However, the creation of a hub requires several key factors:

- **Logistics excellence:** to enable regular, convenient and cost-effective shipments of multiple size lots of coffee to consumers all around the globe. This is advantage is enjoyed by both European Community hubs and Asian re-exporters such as Singapore and Hong-Kong

- **A well-developed financial sector:** to provide the requisite skills in commodity trading and supporting finance for trading activity: to enable hubs to hold large volumes of coffee while managing (and potentially even benefiting from) the volatility in coffee commodity markets. This advantage is enjoyed by both European and Asian coffee hubs

- **Proximity to a large market to enable movement of large volumes of multiple-origin coffees at low marginal costs:** this advantage is enjoyed by European Community hubs such as Germany, Belgium and Italy

**Opportunities in Processing**

*Production of Instant Coffee*

Taken at a regional level, there appears to be a potentially viable consumption market emerging for instant coffee consumption: given a minimum efficient scale for an instant coffee plant of 4,000 tons per annum versus current African consumption of instant coffee of 15,000 tons, there is scope for import substitution in countries that import significant volumes of soluble coffee in North Africa.

\(^{18}\) Technoserve, “7th Biennial U.S.-Africa Business Summit”, 2009
New growth markets in Eastern Europe and Russia also present a potentially addressable export opportunity for Africa-based producers. As an example, the Russian market for instant coffee is 134,000 tons, 75% of which is instant coffee.

Established major consuming markets in the EU and US are challenging to address for new branded manufacturers, given that most instant coffee is sold through supermarkets that only list a small number of brands that typically invest heavily in marketing to support their positions. However, supermarkets’ own branded coffee may be an entry route for manufacturers, either as a low cost supplier or as a potentially premium supplier of own branded single origin coffee. This is a fiercely price competitive sector that also requires typically scale volumes and high levels of service, but if exploited can provide a great entry route for players aiming to reach scale.

There are multiple options for the configuration of instant coffee production and supply chains for African countries: positioning of plants close to Robusta production can minimise transportation costs; locating close to regional consumption markets offers the potential to mix beans from multiple origins to optimise costs and blend to multiple recipes, and leverage local demand as a platform for potentially entering export markets; manufacturers may also consider disaggregating instant coffee production from packaging (e.g. processing near a source of Robusta, and packaging in a regional or international export market) to enjoy combined efficiencies on transport and minimisation of export duties.

Toll Processing of Roast and Ground Coffee
80% of world coffee consumption is of the “average” or non-specialty quality. For this segment, an African coffee processor can specialize in cost-competitive roasting close to origin, and still generate a positive return, although this would need to be compared to investing in toll processing capacity in traditional consumption markets, especially given lower transport costs for green coffee versus packaged coffee. Roasted and Packaged coffee costs about twice as much to transport than green coffee beans, but the inflated transport costs are still at 2% of estimated wholesale coffee prices.

DOMESTIC DEMAND CREATION
The presence of a local market for coffee consumption allows, at the macroeconomic level, the retention of a greater share of the total value of coffee within producing countries, while at the microeconomic level it provides an opportunity that can warrant investment in local production and processing. This can foster the cumulative creation of processing knowledge and capability, which can be later exported if they have price or quality advantages.

PROMOTING COFFEE ORIGINS
Coffees vary in flavor based both on the variety of bean and also the location, in a similar manner to wine. There are opportunities for coffee producers to leverage techniques that have been successful in the wine sector to coffee to drive a price premium for specialty coffees based on their origin. Colombia’s aggressive marketing of Colombian coffee demonstrates that this can be achieved at the level of a country, while Yirgacheffe and Oromia coffees from Ethiopia demonstrate that this can be achieved for regions within a country.

In addition to realizing a price premium for the coffee itself, a tourism sector could also be cultivated around coffee plantations in a similar fashion to wine tours. Coffee tours already exist in countries such as Costa Rica, and are able to take advantage of the typically picturesque, highly elevated locations of coffee plantations, particularly for Arabica.

CHALLENGES AND BARRIERS
Key challenges facing African countries aiming to increase their level of value capture in the coffee value chain are outlined below.

**FIGURE 16: OVERVIEW OF CHALLENGES FACED BY SUB-SAHARAN AFRICAN COUNTRIES ACROSS THE COFFEE VALUE CHAIN IN AFRICA**

<table>
<thead>
<tr>
<th>Value Chain</th>
<th>Challenges faced</th>
<th>Processing</th>
<th>Marketing and Distribution</th>
<th>Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coffee bean Production</td>
<td>• Ageing trees and high cost of (re)planting</td>
<td>• Higher energy, water and logistics costs versus major international processors (esp for instant coffee)</td>
<td>• Strong competition from traditional beverages, especially tea</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Ageing farmers</td>
<td>• High cost of packaging to serve international markets (esp for roast and ground)</td>
<td>• Negative perception of coffee as a premium beverage with health risks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Excessive use of chemicals</td>
<td>• Lack of affordable financing for local players</td>
<td>• Market size too small to garner investor interest in processing or distribution / retail</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Low pest &amp; disease management</td>
<td>• Relatively high cost of machinery, parts &amp; maintenance</td>
<td>• Inability of any single player to fully capture benefits of promotion for coffee consumption</td>
<td></td>
</tr>
<tr>
<td>Production &amp; Post-Harvest Processing</td>
<td>• Competition with other crops or non-agricultural uses</td>
<td>• Reliance on Single Origin Beans</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Shortage of labor skilled in wet mill operations</td>
<td>• Relatively high green coffee cost, especially for specialty arabica producing countries in East Africa</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Relatively high certification costs for smallholders</td>
<td>• Inability to arbitrage</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Low coverage of extension services</td>
<td>• Inability to blend to meet international client requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Poor access to finance for wet milling</td>
<td>• Increased volatility of supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market Access</td>
<td>• Lack of market information</td>
<td>• Reliance on Single Origin Beans</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Extreme and difficult to realise certification targets</td>
<td>• Relatively high green coffee cost, especially for specialty arabica producing countries in East Africa</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• High farmgate price volatility</td>
<td>• Inability to arbitrage</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Industry Interviews; Dalberg analysis

**CHALLENGES FOR INCREASING VALUE OF RAW COFFEE**

As with most cash crops, coffee competes with alternative crops for land use, as well as non-agricultural uses. In some respects, the area planted with coffee is relatively ‘sticky’: as a tree crop, coffee involves substantial sunk costs in order to plant land or renew old trees, and for growers that have a low willingness or ability to invest in agricultural inputs or appropriate husbandry, coffee trees can continue to be harvested at low cash investment. However, for farmers with a more commercial orientation, the substantially aged stock of coffee trees in many key producing countries such as Ethiopia and Kenya has precipitated decisions on whether to make a substantial commitment to replant, or exit the crop. In countries such as Kenya, farmers exiting coffee in order to focus on alternative higher value crops or to sell land for real estate development – especially close to major cities such as Nairobi – has contributed to year on year production declines in 2003-09.

For processing coffee through wet mills, operators must be knowledgeable in processing of coffee and in management of the coffee washing station as an enterprise in order for investments to be worthwhile. Development of these skills is a departure from the typical agricultural skillset, and can take significant time: while this capability is being developed, value can actually be lost by taking coffee through inefficient washing stations that increase costs but result in no net increase in green bean FOB prices.
Niche markets present a series of challenges: fair-trade certification costs, which include the application fee, initial certification fee, membership fees and regular audit fees, can be too high to warrant investment for many small farms, whether borne by the smallholder or another organisation (such as a key buyer); the scale of the organic market is currently small and is likely to remain niche; and farmers suggest that there can in some instances be challenges in increasing coffee yields while following strict organic agronomy practices.

**Challenges for the Development of Coffee Processing**

Instant coffee production in African countries can typically be more expensive than in developed consumer markets. Although processing in a country responsible for coffee production can provide some opportunities for some raw material cost and transportation cost efficiencies for the upstream supply chain, other costs tend to be relatively expensive. Instant coffee production is highly energy and water intensive, both of which tend to be materially more expensive in Sub-Saharan African countries. The production of instant coffee is capital intensive and involves sophisticated production environment management capabilities, which can require importing specialised capital goods and supplies of spare parts, plus specialised labour, with substantial price premiums. Finally, tariff escalation creates additional barriers for producers of processed coffee that intend to export to consumption markets.

Beyond processing economics, the high level of consolidation of the instant coffee market, with substantial investments in branding and established relationships with key channels to market create substantial barriers to entry from any new players based on African countries, and imply that entry will likely require collaboration with a major multinational.

For toll processing, a lack of the necessary skills within African markets creates a temporary issue of importing know-how; however, key issues for toll roasters are the breadth of coffee varieties and availability of efficient logistics to be able to serve consumer markets. Roasted coffees can typically involve blends of 10-15 varieties of coffees in order to create desired (and consistent) flavours and colours; toll roasters can lack access to the breadth of varieties of Robusta and Arabica required at a cost that is competitive with roasters in key importing markets, which have established supply chains for a broad variety of beans. This is compounded by a lack of reliable logistics to enable just-in-time deliveries for key clients, which specify tight delivery windows in order to efficiently manage working capital. Roast coffee is also considered a perishable product that does not travel well, and can be vulnerable to spoilage through increased moisture during sea transportation. Although workarounds may exist by, for example, maintaining stocks in consumer markets that can be used to serve consumers in-country and transporting roast coffee in appropriate packaging, this can also add to both operating costs and a requirement for financing high levels of stocks to be able to operate in multiple consumer markets.

**Challenges for other approaches: Creating an African Coffee Hub & Stimulating Local Consumption Demand**

As discussed, African countries are not natural hubs for coffee aggregation and trading. Potential aggregators may be hindered by the lack of cost competitive credit to finance scale purchases of coffee, while traders face both challenges in access to finance and lack a pool of available trading talent. Substantial inefficiencies at key ports such as Dar-es-Salaam and Mombasa in terms of congestion and therefore delays in transit, plus relatively high logistics costs versus other ports, lead to higher trading costs for potential African traders.

Consumption of coffee traditionally competes with other hot drinks such as tea: as traditional tea drinkers, many African communities perceive coffee as a premium beverage with, in some cases, negative health connotations. However, the example of Brazil demonstrates that demand can be stimulated through effective marketing and consumer education, if the private or public sector participants are willing to invest in demand creation. The case
for doing so is likely to remain relatively low for the private sector in many Sub-Saharan African countries, which are typically considered too small a commercial opportunity to be worthwhile as a standalone investment, and not attractive to create a ‘public good’ that could also be leveraged by competitors.

Vietnam is currently the second largest coffee producing nation in the world, after having experienced a transformation in its coffee industry in the decade between 1990 and 2000. In the years between 1990 and 2000, Vietnam overtook Colombia as the world’s second largest coffee producer with its global market share jumping from 1.2% to 12.4%\(^{19}\), as Vietnamese farmers, 80% of them smallholder\(^{20}\), planted more than a million hectares of Robusta coffee\(^{21}\). Through the 1990s, coffee production in Vietnam increased at an annual rate of 30%, resulting in coffee contributing 10% of national export earnings by 2000, and more than one million Vietnamese participating directly or indirectly in the country’s coffee economy\(^{22}\). In the period between 1991 and 2001, the years of the coffee boom, Vietnam’s GDP increased at an average of 7.7%, with coffee an important contributor to overall economic expansion. Vietnam was able to achieve such success in the coffee industry despite the lack of a significant domestic market, with only 8% of Vietnamese produced coffee consumed at home\(^{23}\). It should be noted, however, that the vast majority of Vietnamese coffee exports is green coffee, which is processed elsewhere.

**History**

Missionaries introduced coffee in Vietnam in the early 19\(^{th}\) century. French colonialists wished to make Vietnam a large exporter of coffee to their own market, and so encouraged the creation of numerous coffee plantations. However, production of coffee in Vietnam during colonial rule was not very successful, and Vietnam was unable to develop into a major player on the global coffee production stage. In the 1940s, a severe fungus outbreak destroyed most coffee plants except for the *Robusta* variety, which is the type of coffee currently produced in Vietnam. After independence in 1954, the Vietnamese government identified coffee as a commodity that could bring Vietnam considerable wealth, but the ensuing war in the 1960s and 70s precluded any chance of developing the sector further. It was only once the violence died down and a certain modicum of political stability was attained that further progress was made in the Vietnamese coffee industry.

**Drivers for Vietnam’s Success**

The boom in coffee production during the 1990s can be explained by three major factors, the first two internal, and the third external.

**State Sponsored Migration into the Central Highlands**

A legacy of colonial rule and organization of the coffee industry was that coffee production in Vietnam was centered on large plantations. In the late 1970s, the Vietnamese government wished to include smaller farmers in the coffee industry, in order to reduce the monopoly of large plantations. It followed a policy of encouraging ethnic majorities to migrate to the sparsely populated central highlands region, which was an ideal location for coffee production, through incentives of clear and fertile lands. This was a very successful policy, as the population density of the region rose from 3 person per square kilometer in 1940 to 77 persons per square kilometer in

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\(^{19}\) Stockman, Lindsey Grace. Causality and Comparative Advantage: Vietnam’s Role in the Post-ICA International Coffee Market


1997. Between 1986 and 1996, coffee cultivation areas grew at the rate of 21% annually, and yields grew 6% annually. The central highlands region has ideal conditions for coffee cultivation, with fertile basaltic red soil, mountainous terrain, and a hot and moist climate.

**The Government’s Policy of Privatization and Economic Liberalization (Known as Doi Moi)**

The Vietnamese coffee industry, encouraged in large part by the Vietnamese government, transitioned from large plantations to state-owned farms to small farmers with an average size of 1.2 hectares. The Vietnamese government eventually dismantled the system of state-run farms in favor of a market-based coffee economy, as part of the Doi Moi reforms. Notable policies included allowing households and small farm-owners to have their own coffee plantations, handing land usage rights to farmers, and allowing privately owned enterprises to participate in commodity production. Foreign investment was also encouraged in the agricultural commodities sector, with three big trading groups doing business in Vietnam, including ED & FMan, Newman Groupe, and O Lam.

**Collapse of the ICA’s Quota System**

The International Coffee Agreement (ICA) collapsed in 1987. This was a major boon for the Vietnamese coffee industry. The ICA utilized export restrictions to stabilize world market prices, and severely limited coffee exports from small non-member producers such as Vietnam. With the demise of the ICA, these artificial barriers were eliminated, and Vietnamese exports was able to take full advantage of unrestricted access to global coffee demand.

**Other Factors**

Vietnamese coffee exports also benefitted from a weak currency, low wages on a global level coupled with high productivity, investments in rural infrastructure by the government and proximity to ports of coffee growing centers due to the narrow shape of the country. The average productivity of coffee cultivation in Vietnam is 1.3 tons/hectare, and some regions boast of 4-5 tons/hectare, largely due to heavy fertilizer use and expansive irrigation systems. This compares well with other coffee producing centers, such as Africa (0.3 tons/hectare), Indonesia (0.6 tons/hectare), Brazil (0.8 tons/hectare) and India (0.8 tons/hectare). The Vietnamese government has also promoted its investment in rural infrastructure such as roads, bridges, irrigation works, electricity and water supply, thereby facilitating the production and flow of goods and enhancing linkages among regions.

**Pitfalls in the Vietnamese Coffee Growth Story**

Vietnamese government policies can be credited in setting up the building blocks of the coffee boom. However, the government failed to formulate a long-term sustainable plan for the coffee industry in Vietnam once the industry took off.

The emergence of Vietnam as a major exporter of coffee coincided with and partially caused a worldwide plunge in coffee prices, adversely impacting coffee producers all over the world, including its own. While Vietnam cannot be the sole reason for this plunge in prices, it has played a significant part. This is true because of the low quality robusta coffee which it produces, as well as the fact that Vietnamese exports continued to rise as prices continued

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25 Stockman, Lindsay Grace
27 Ministry of Agriculture and Rural Development. Impact of trade liberalization on some agricultural sub-sectors of Vietnam: Rice, coffee, tea and sugar.
falling. In addition to Vietnam’s economic rivals, Vietnam itself has faced adverse impacts of this fall in price due to its hyper inflated coffee output. Between 2000 and 2002, Vietnamese coffee export prices fell 57% in the world market, causing Vietnamese farmers to lose an estimate collective total of a quarter of a million USD.

Vietnamese coffee growers expanded their coffee plantations in unplanned and often suboptimal ways as they were not given clear guidelines by the government. This has led to an imbalance between production and processing, as well as an imbalance in product structure. The facilities for drying yards, processing stations and advance technologies have not been able to keep up with the coffee grown, leading to in some instances relatively low quality coffee that attracts prices below ‘mainstream quality’ market levels. Although there is potential to grow Arabica in the north, the output of Arabica is still low, suggesting that the sector has not been as agile in capitalizing in current opportunities as it was at the beginning of the Vietnamese growth period.

The government is trying to remedy the problems in the coffee industry by purchasing and stockpiling its own coffee, as well as paying more attention to quality rather than quantity by improving plantation techniques and diversifying the varieties of coffee grown. African countries wishing to replicate the success of the Vietnamese coffee industry should thus keep in mind the dangers that come with over-confidence in a narrow strategy, and the necessity for prudent long-term planning.

**IMPLICATIONS FOR AFRICAN PRODUCERS**

The meteoric rise of Vietnamese coffee since 1990 can be attributed to prudent government policies, as well as fortunate timing due to external events. The incentives provided by the government that encouraged large parts of the population to migrate to coffee producing regions in the country played a large role in the coffee boom. Government policies to liberalize the economy and promote small holding farms further drove the Vietnamese coffee industry to success. With these building blocks in place, the Vietnamese coffee industry found itself on the fast track to success with the fortuitous collapse of the ICA, just as the results of the government policies promoting the coffee industry were coming to fruition. However, the explosive growth of the coffee industry in Vietnam exposed the lack of a coherent long-term government policy, as it was unable to control the burst of spontaneous growth, resulting in falling prices and lower quality.
7. Brazil: a Case Study of the Key Success Factors for Value Capture in the Coffee Industry

BACKGROUND: BECOMING A MAJOR PRODUCER AND CONSUMER

While Brazil’s share of global production has declined from its historical highs of over 50 percent, it remains the key player in world production and has successfully developed a domestic coffee processing sector. Coffee is not only an export crop, but is an important part of the daily lives of Brazilians whose country ranks second in coffee consumption after the United States.

Before 1990, the government had a significant role in managing the coffee sector. However, with the opening of the economy in the early 1990s and the abolition of the Brazilian Coffee Institute (IBC), the coffee sector was liberalised. Today, the greatly reduced governmental role is overseen by a Coffee Policy Council with high level participation of coffee grower groups, domestic industrial users of coffee, and exporters as well as key government agencies.

The increase in Brazilian coffee production from 1990 to date was achieved more through an increase in yields per acre rather than increase in total acreage. In particular, Brazil’s liberalised coffee sector, over the course of 1990 to 2000 reconfigured its land use, moving a large share of production out of frost prone areas and employed high density planting techniques to plant millions of new Arabica and Robusta coffee trees. The industry also increased its capital intensity, employing mechanized harvest systems, and invested in new post harvest processing techniques. These resulted in an increase in yields, a reduction in production costs, and through the introduction of new varietals made available new coffee types that allowed processors to create multiple blends.

Brazil’s coffee export sector is fragmented and fairly competitive: approximately 160 firms export Brazil’s coffee, with the ten largest exporters controlling less than one-half of shipments by volume. Coffee export logistics have been modernized with increased preparation of the coffee for export done in the interior growing areas rather than at port side. Automation and mechanisation of bagging and containerization have reduced costs and improved throughput rates. Port privatization and modernization has made Brazil’s ports, especially the key port of Santos, less costly to use and more efficient in their operations.

Growth in domestic coffee consumption has been an important stimulus to growth in the processing sector. Brazilian coffee consumption has grown by an average of 4.3% a year from 1990 to 2010, resulting in an increase from 492,000 tons green bean equivalent in 1990 to 1.1 million tons.

FIGURE 17: GROWTH IN BRAZILIAN COFFEE CONSUMPTION, ’000 TONS GREEN COFFEE EQUIVALENT, 1990-2010

SOURCE(S): Brazilian Association of Coffee Companies (ABIC), Dalberg analysis
This large increase in local consumption is attributable to four key factors:

- **Improvements in coffee product quality supported through certification**: Achieved through introduction coffee quality seal in 1989 to certify the final product produced by Brazilian roasters; Introduction of coffee quality program in 2004 to certify raw green bean materials used in coffee products; and the introduction of a sustainable coffee certification program to offer certification for industry players who meet sustainability standards from crop to cup.

- **Stimulation in demand for premium coffee**: Marketing of higher quality gourmet coffee has increased consumers’ willingness and ability to pay for higher priced and higher quality coffees, and has attracted a young clientele to the habit.

- **Successful positioning of coffee as a health-enhancing product**: Improved link between coffee and good health from the consumers perspective.

- **Underlying macroeconomic growth**: Strong economic growth in Brazil, that increased incomes per capita, purchasing power and reduced unemployment.

At the same time as addressing a rapidly growing domestic sector, Brazil’s processing sector is also exporting greater volumes of processed Brazilian coffee, with exports growing 1.5% per year in volume terms from 1991 to 2009. Brazil’s share of global processed coffee exports is underweight when compared with its scale as a green coffee producer, however, suggesting that scope for further expansion exists. As stated earlier, the Brazilian processing sector benefits from local availability of a broad range of coffee varieties that allow instant and roast and ground manufacturers to satisfy the broad range of characteristics required in the international market across factors such as aroma, flavor, body, acidity and aftertaste.

Coffee processing, including instant coffee manufacture, includes several substantial local players, such as Cacique, Iguacu and Cocam (now owned by Dutch producer Ursa), which have considerable share of international instant coffee exports, based on an ability to leverage the breadth and cost effectiveness of local coffee varieties to be able to offer a broad portfolio of recipes and types of instant coffee tailored to preferences of different countries. Recent growth has also benefited in 2002 from partial reduction of preferential trade agreements in the EU with other coca producing countries such as Colombia and Costa Rica.

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28 Adapted from the USDA Coffee Annual 2010
29 Cacique claimed to be the worlds largest instant coffee exporter in 2002 (http://www.luxner.com/cgi-bin/view_article.cgi?articleID=43)
FIGURE 18: VOLUME OF BRAZILIAN PROCESSED COFFEE EXPORTS, 1991-2010

SOURCE(S): ABIC, ICO, FAOSTAT, Dalberg analysis

**IMPLICATIONS: KEY SUCCESS FACTORS FOR VALUE CAPTURE**

The Brazilian experience demonstrates many of the most important success factors required for countries to capture value at more advanced stages in the coffee value chain. In general, the most critical factors required to successfully transition to higher value-added activities in the coffee value chain include:

- **Material domestic demand**: Brazil's processing sector has largely grown in response to the growth of the domestic demand, which has provided a market to support the economic viability of the processing sector. Public sector and industry driven intervention to drive demand has been instrumental in increasing per capita consumption.

- **Cost efficient production / high intensity production techniques**: Given the relative ‘simplicity’ of coffee as a consumer product (coffee is the sole ingredient of roast and ground or instant coffee) the cost of green coffee is a major determinant of the economic viability of processors. Liberalization of the coffee sector has allowed substantial increases in efficiency of production, through a combination of land reallocation and through the increased mechanization of the sector. As a result of the efficiency gains from liberalization, Brazilian producers are able to produce coffee at globally competitive levels of cost, leading to substantial cost advantages for domestic processors.

- **Reliable, low cost availability of multiple varietals**: The breadth of local varieties of coffee allows Brazilian processors to viably service the international market for both roast and ground and instant coffee, as they are able to use locally available coffee to meet a broad range of requirements in terms of aroma, flavor, body, acidity and aftertaste from clients. This breadth is the result of deliberate planting of Robusta in addition to Arabica, and development of different strains that are adapted to different regions and that can offer different properties, through the ‘Coffee Genome Project’.

- **Great logistics**: Good quality road and port logistics, as well as fast turnover times at key ports and borders are critical in the agro-processing sector in general and certainly for the processed coffee sector. The high quality and efficiency of Brazilian infrastructure supports both the export of green coffee and processed coffee.
- **Reliable power**: Instant coffee manufacture is energy intensive. A reliable power infrastructure can substantially reduce costs by mitigating the need to invest in (or materially use) high cost backup power supplies.

Brazil's combination of a large and growing domestic market, plus the comparative advantage that its broad base of local coffee varieties confers in meeting international client requirements, create a substantial addressable opportunity for Brazilian coffee processors. Notably, these advantages were created, rather than naturally endowed on the sector, indicating that elements of Brazil's successful model might in principle be feasible to be replicated in African countries.
8. Positioning of African Countries for Successful Value Capture

Major coffee producers in Africa face a range of opportunities for increasing the amount of value they capture from the value chain, both in terms of deriving higher value from processing green coffee and from ancillary or complementary areas such as developing coffee-related tourism.

However, the feasibility of capturing greater value, especially through increases in local processing, is not entirely straightforward. As the largest producer and consumer of coffee in Africa, below we review Ethiopia’s potential for successful value capture in processing, based on the success factors identified in the previous chapter.

FIGURE 19: OVERVIEW OF ETHIOPIA’S POSITIONING AGAINST KEY SUCCESS FACTORS FOR GREATER VALUE CAPTURE IN THE COFFEE VALUE CHAIN

<table>
<thead>
<tr>
<th>Success Factor</th>
<th>Positioning of Ethiopia</th>
<th>Comments &amp; Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material domestic demand</td>
<td>Strong</td>
<td>Ethiopia has a highly entrenched traditional culture of coffee consumption, and substantial annual growth in the sector of over 5% in volume terms per year. Ethiopia therefore starts from a stronger base than Brazil in terms of attitudes towards coffee consumption, although this may result in less scope for increasing coffee consumption per capita unless overall income per capita can also be increased, or affordability of coffee improved.</td>
</tr>
<tr>
<td>Cost efficient production / high intensity production techniques</td>
<td>Weak</td>
<td>Coffee production in Ethiopia is challenged by a high degree of smallholder cultivation, prevalence of old trees (or ‘wild coffee’ that is collected from very old trees), and a lack of either substantial use of inputs or any mechanised gathering techniques</td>
</tr>
<tr>
<td>Reliable, low cost availability of multiple varietals</td>
<td>Weak</td>
<td>Ethiopia exclusively produces Arabica coffee, and does not engage in substantial variety development to either improve the efficiency of production or breadth of features of the coffee it produces (in terms of factors such as taste, aroma, aftertaste etc)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>As a result, prospective domestic processors are only able to access highly expensive Ethiopian Arabica to develop expensive single origin roasts or import other green coffees at relatively high cost to develop blends.</td>
</tr>
<tr>
<td>Great logistics</td>
<td>Weak</td>
<td>Ethiopia’s current infrastructure is in poor condition and undersupplied: it has one of the lowest densities of roads in the world.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The government has committed to the development of 71,000km of roads, with a budget of $9bn allocated over a five year period.</td>
</tr>
</tbody>
</table>
Reliable power | Challenging
--- | ---
Ethiopia is in principle self-sufficient in energy production, with substantial untapped hydroelectric power resources. However, Ethiopia currently faces an electricity deficit in terms of generation, transmission and related energy infrastructure.

The Africa Development Bank in 2011 committed to providing $232m in loans and grants to support a targeted five-fold increase in electricity generation. However, overall energy infrastructure plans are expected to be executed over a long period, with a current public-sector plan to invest $12bn over a 25 year period.

As a result, Ethiopia’s comparative advantage of substantial and growing local demand for coffee, and presence of substantial quantities of local coffee production is hard to leverage for the development of a coffee processing sector without addressing challenges on a broad set of other key factors required for success.
9. Considerations and Steps Required to Develop Policy

The preceding chapters provide an overview of the key trends in the coffee sector, where the primary opportunities in value capture are for African countries and the key success factors required to capture a greater share of the value available in the coffee value chain.

There are several common themes that will frame country-level policy-making in Sub-Saharan Africa. The opportunities for maximising value in green coffee are significant and relatively easy to capture versus processing, but positive spillovers in terms of catalyzing broader industrial development are limited. The case for policy intervention is only justified if other barriers or market imperfections constrain private actors from capitalising on this opportunity.

Prospects for developing a coffee processing sector are less straightforward. Policies must either be compatible with or attempt to address the realities of developing a processing sector that has to contend with low domestic demand and a highly challenging export market.

However, to develop a coffee strategy that is relevant at the country-level, policy-makers need to consider a range of areas in order to develop a country-specific plan to catalyse and drive transformative growth in the coffee processing sector. Below we outline some of the key areas and considerations to be included in country-specific policy development.

A – IDENTIFY AND PRIORITIZE OPPORTUNITIES FOR VALUE CAPTURE

Although at a generic level a broad set of opportunities have been identified for Sub-Saharan African countries in the coffee sector to increase value capture, the prioritization of these opportunities will need to take into account several country-specific factors, including:

- **Base lining the current economics of the sector**: Policy-makers need to develop a robust understanding of the vertically integrated economics of the coffee sector that includes coffee processing for both roast and ground and instant coffee manufacturing. This should include the current level of efficiency of coffee production and the scope and feasibility of increasing production, either through increased land allocation, increased yields, or both. An equivalent analysis for the coffee processing sector also needs to be undertaken, with a review of the current levels of operating capacity and efficiency of the sector, followed by an assessment of the sensitivity of costs to drive increases in production. This overall model should deliver a decomposition of cost in the value chain versus other international competitors, in order to identify both areas of advantage and key areas where the domestic industry needs to close a gap to ensure international competitiveness.

- **Forecasting the key variables that have the most impact on the economic viability of the sector**: In this case, this should at least include expectations of coffee prices, at the FOB and farmgate level, and by different grades, and the likely reactions of processors, traders and farmers to forecasted changes.

- **Sizing the opportunity**: based on the above economic models and forecasts, scenarios for the potential scale of the overall economic opportunity for scaling up production and processing need to be evaluated.

- **Assessing opportunity costs for market participants in the sector**: The opportunity cost of cultivating and processing coffee, and the relative opportunity cost of supporting coffee production and processing versus other crops or other sectors, given limited financial and human resources.
• **Analysis of comparative marketing systems**: a diversity of marketing systems, varying from controlled marketing boards in Kenya to laissez faire regimes exist in the region. The comparative strengths of such regimes and the boundaries this places on the set of feasible country-level policies needs to be taken into account in developing the overall policy agenda.

• **Identifying areas of comparative advantage / disadvantage**: Analysis of the relative costs of coffee production and processing locally versus in competing markets, and an identification of the key sources of current lack of competitiveness and areas for potential comparative advantage.

• **Outlining what policies would be required to take advantage of opportunities, and paring this back to what is possible**: For example, in the case of increasing instant coffee manufacture, policy-makers need to take a view on the willingness and ability of government to provide sufficient incentives to attract inward investment, and the ability to potentially tolerate extended periods of limited fiscal returns from the sector in order to foster an entrenched set of long-term investments from major multinational players.

• **Prioritise opportunities**: From the above, a ranking of opportunities for value capture based on an overall assessment of the net gains, feasibility and risks.

### B - IDENTIFY CURRENT POLICY BOTTLENECKS

Having identified priority areas for value capture, relevant policy bottlenecks need to be identified. At a generic level, some policy-related challenges include:

• **Poor business enabling environment**: A lack of business and enterprise support, including a lack of access to finance inhibit prospects for locally based and locally owned processors to emerge, especially given the comparative cost of capital for major vertically integrated multinationals and their head-start in branding spanning several decades.

• **Restrictions on the number of avenues for producers to reach export markets**: Typically through a limited number of export licenses translates into above normal rents accruing to these licensed marketing agents at the expense of farmers, and in markets such as Kenya this has contributed to a decrease in production.

• **Barriers to intra-regional cooperation**: some areas for particularly key interventions in the coffee sector include the liberalisation of coffee trading across borders in areas such as the East African Community (EAC) and potentially the development of a regional trading hub. The existence of Common Market and Customs Union protocols in the region should in theory allow for the eventual free trading of such commodities across borders, and factors that are impeding the advance of the EAC agenda need to be understood when developing any policy with respect to inter-country entities such as a regional hub.

### C – DEVELOP KEY ENABLING INTERVENTIONS

Based on the opportunities for value capture and associated policy bottlenecks that have been identified, a policy agenda to support a coffee growth strategy can be developed. This policy-agenda must necessarily be specifically adapted to the needs and resources of each country, although some general themes may be shared. Beyond general measures that aim to improve the environment for agro-processing in general, such as working to improve the reliability and cost effectiveness of energy, improving road and port infrastructure and providing investment incentives for industry, there are a few measures that may potentially be directed at the coffee industry in multiple countries:
▪ **Stabilisation schemes for farmer incomes:** The volatility of coffee prices and the long lead times between planting decisions and first harvests of coffee have caused farmers to underinvest in coffee production; a small and contracting coffee supply precluded the development of a processing sector. Stabilisation of farmer incomes through mechanisms such as price guarantees or insurance can be an important lever in supporting stable and growing production. However, the feasibility of such schemes need to be assessed in light of market board and caisses experiences in the 1970’s and 1980’s in order to ensure the lessons learned from these experiences inform any related policy interventions.

▪ **Smart liberalization of the coffee export markets:** Conversely, export markets are highly regulated, creating challenges for the efficient international and even regional export of green coffee. Policy-makers should consider the net value of liberalising regional green coffee trade to enable processors to reduce costs of processing regional blends of coffee, and allow more efficient arbitrage between highest quality coffees (where the most value can be realised through their direct export) versus lower quality coffees. This could allow processors to reduce prices and support local demand growth.

▪ **Demand creation:** Brazil’s experience of increasing local demand for coffee consumption demonstrates that a strong or growing local market is a key foundation for the development of a processing sector, and also provides a means to capture the full value added from bean to cup.

▪ **Aggregation of regional (and potentially some international) beans:** Processors note that being tied to a single origin can be an important constraint, as processors may be constrained to relatively high cost sources (especially in high quality production countries such as Kenya) and are unable to offer the same breadth of taste profiles as their competitors in consumption markets. The ability to access beans from multiple origins, including Brazil and Colombia, at an African-based hub could provide a substantial stimulus to the development of a broader range of products for domestic consumption and position African roasters to compete more effectively with international competitors.

**D – ADDRESS POTENTIAL POLICY TRADE-OFFS**

Policy-makers typically need to take into account the reality that any sector-specific strategy must compete with many other overlapping, and potentially conflicting, priorities. However, there are several additional policy trade-offs specific to the coffee sector that need to be addressed when determining an overall approach to defining a coffee strategy for any country, including:

▪ **Regulation of the market versus laissez faire:** Opting for a regime of strong regulator control of the market, with, for example, a restricted number of export agents for coffee beans versus a liberalised market where traders can directly purchase from producers, and producers can go directly to traders / processors. There is potential at a macro-level to earn more from coffee exports by limiting number of exporters and consolidating country production, but this shifts local market power to the few licensed producers which enables them to extract rents from the commodity at the expense of farmers.

▪ **Niche versus commodity focus for coffee exports:** Given limited resources, it may not be possible or compatible to simultaneously pursue a strategy of developing scale production of low cost coffee, in a similar manner to Vietnam, and also to target niche markets and earn higher value on small quantities through certification (Fair Trade, UTZ Kapeh, Organic, Rainforest Alliance etc) and branding in consuming countries

▪ **Capturing value at the material processing stage versus branding and marketing:** While entering the processing segment of the coffee value chain, countries could choose to either focus on being a toll
processor of coffee (a medium capital, high volume and very low margins sector) or on enabling local businesses to enter into the branding/marketing and distribution segment through partnerships with actors in traditional and emerging consuming markets, which has higher capital demands and is a lower volume, higher margin activity

- **Focusing on development of local capacity versus leveraging international players:** for an export-orientated strategy it may be critical to engage the expertise of international players, especially in the global market for instant coffee, given their strong positions in most major markets. However, this must be weighed against the risk of relatively low knowledge transfer and reduced spillovers to the broader economy that are likely to occur if international players leverage their international talent and knowledge base.